

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1699.—Vol. XXXVIII.

LONDON, SATURDAY, MARCH 14, 1868.

(WITH SUPPLEMENT) (STAMPED ... UNSTAMPED ...)

### MR. JAMES CROFTS, STOCK AND SHAREBROKER,

No. 1, FINCH LANE, CORNHILL. (Established 1842.)  
SUMMER HILL shares, after a large business done in them, are reduced in market value to a price apparently much below their merits, consideration being had to the fact that £10 per share is only equal to £5000 for the entire mine; whilst the reduction has been caused by pressure of a limited number of sellers to realise upon a small cost. It has already paid 45s. 6d. per share in dividends, and continues to promise a very high rate of remuneration. BUYERS at the prices lately ruling should average their shares by purchasing at the reduction in price, the market appearing to be cleared of all eager sellers.

WEST GODOLPHIN are recommended as an INVESTMENT. These shares are now at a moderate price, and the prospects of the mine most encouraging. Dividends will be regularly paid, yielding a high percentage on cost. A limited number of shares for sale at THE LOWEST MARKET PRICE.

BUSINESS IN ST. BRIDE'S SLATE QUARRIES (Pembrokeshire).—A valuable report from these extensive quarries has been received, a copy of which can be had on application. The shares are estimated to pay in the course of this year a very large percentage on a small outlay, and those Mr. CROFTS has for sale are peculiarly eligible as an investment in perpetuity, being fully paid-up to 2l. per share.

Bankers: National Bank of Scotland, 37, Nicholas-lane, E.C.

### MR. JOHN BUMPUS, 44, THREADNEEDLE STREET,

has FOR SALE the following shares, free of commission:—  
50 Anglo-Brazil, 10s. 25 St. No. Laxey, 15s. 50 Port Phillip, 30s. 6d.  
35 Chontales, 24s. 20 Gwanton, 22s. 20 South Darren, 34s. 6d.  
20 ditto Royalty (£5 10 Great Laxey, £17 1/2 10 Summer Hill, 27s.  
paid), 23s. 20 St. No. Downs, 24 1/2 5 St. John del Rey, £17 1/2  
50 Carn Camborne, 4s. 10 Gt. Wheal Vor, £19. 50 South Grenville, 5s. 3d.  
20 Chiverton Moor, £6 1/2 20 Minera, £18 1/2 20 So. Condurrow, 11s. 6d.  
40 Drake Walls, 10s. 9d. 15 Marke Valley, £26 1/2 20 West Caradon, 45s.  
50 Don Pedro, £27 1/2 pm. 20 North Crofty, £22 1/2 20 Wheal Boller, £17 1/2  
20 East Russell, 26s. 50 New Quebrada (£4 20 W. Pr. of Wales, 9s.  
paid), 14s. 30 No. Treskerby, 27s. 6d. 30 W. Wh. Kitty, 12s. 6d.  
15 E. Lovell, £8 18s. 9d. 50 New Birch Tor, 18s. 10 Wh. Kitty (Leland),  
50 Frontino, 15s. 50 Prince of Wales, 57s. £6 3/4.  
15 Frank Mills, 15s. Money advanced on mining shares.

**GUIDE TO INVESTORS.—THE STOCK, SHARE, AND FINANCE REGISTER** for March contains a comprehensive review of the Stock and Share Markets; a list of all the dividends paid in February; a comparative estimate of the profits of the several descriptions of shares; a selection of Investments paying 10 to 19 per cent.; and information for intending investors.—6d. per copy, or 5s. annually, post free.  
Published by Mr. BAKER LEELEA, at his offices, 11, Royal Exchange, London.

### MR. WILLIAM WARD, STOCK AND SHAREDEALER,

No. 29, THREADNEEDLE STREET, LONDON, E.C.

### MR. JOHN BATTERS, STOCK AND MINING SHAREBROKER,

13, THROGMORTON STREET, LONDON, E.C.

### MR. WILLIAM SEWARD, STOCK AND MINING SHAREBROKER,

19, THROGMORTON STREET, LONDON, E.C.

Every description of shares BOUGHT and SOLD at the best market prices.

### MR. THOMAS SPARGO, STOCK AND SHAREDEALER,

224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

### MR. J. B. REYNOLDS, 70 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.

Established Eleven years. Bankers: City Bank.  
Copper and tin advancing in price, and mines long neglected now in request. A considerable rise is reasonably expected in many properties noticed by Mr. REYNOLDS. Gratiuity in information in the undermentioned properties, at prices highly advantageous for buyers—viz., Wheal Kitty (St. Agnes), Rose and Chiverton United, Prince of Wales, West St. Ives, West Wheal Kitty, Chontales, Chiverton Moor, Colquhite and Callington, Wheal Kitty (Leland).

### CAPTAIN JAMES POPE (late of BASSET), on COLQUHITE AND CALLINGTON UNITED.—A copy of this report can be obtained from Mr. J. B. REYNOLDS, 70 and 71, Bishopsgate-street Within, London, E.C., on payment of 5s.—March 14, 1868.

### COLQUHITE AND CALLINGTON UNITED.—

Mr. J. B. REYNOLDS is a BUYER of any number of shares in this property. Parties wishing to sell will please state number and lowest price. 70 and 71, Bishopsgate-street Within, London, E.C.

### MESSRS. POWELL AND MOSS, SHAREDEALERS,

78, OLD BROAD STREET, LONDON, E.C., and Mining Exchange.

have large transactions in Prince of Wales, North Treskerby, Frontino, North Crofty, Chiverton, Chiverton Moor, and West Chiverton. Parties dealt with at a fair margin on the market price.

References exchanged. Bankers: City Bank, Finch Lane.

### JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER,

48, THREADNEEDLE STREET, LONDON, E.C.

Business transacted in British Funds, Railway and other Stocks, Foreign Bonds, &c., on the usual commission, 1 1/2 per cent. on mining and other shares, above 2s.; and at 2s. and under 6d. per share.

References given and required. Bankers: London and Westminster, Lothbury.

### MR. THOMAS THOMPSON, MINING OFFICES,

12, OLD JEWRY CHAMBERS, LONDON, E.C.

I cannot do better than continue to recommend Westminster, Central Snail-beach, Kbury, and East Snailbeach Mines, all of which continue to look and promise well for the future.

Thompson's shaft is clear of sand at WESTMINSTER, and will now go on in the regular course of sinking. This is the most important operation of the mine.

### MR. G. D. SANDY, STOCK AND SHAREDEALER,

No. 48, THREADNEEDLE STREET, LONDON, E.C. TRANSACTS BUSINESS IN EVERY DESCRIPTION OF STOCK EXCHANGE SECURITIES, MINING AND FINANCIAL ENTERPRISES, at close market prices.

Correct Daily Price List can be had on application.

Money advanced to any amount on legitimate stocks and shares. References exchanged.

### MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,

BISHOPSGATE STREET, LONDON, E.C. (Established 13 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

50 Anglo-Brazil, 9s. 6d. 50 Frontino, 14s. 3d. 3 So. Frances, £20 1/2  
20 Chiverton, £23 9s. 20 Gt. St. Toigus, 17s. 6d. 5 Stray Park, £2 8s. 9d.  
5 Chiv. Moor, £5 18s. 10 Gt. Retallack, £23 1/2 50 Tamar Valley, 15s.  
50 Chontales, £3 18s. 9d. 50 Gunnislake (Clitters), 20s. 5 Tincroft, £14 1/2  
5 Clifford, £2 1s. 3d. 5 Gt. Wh. Fortune, £4 1/2 5 W. Drake Walls, 10s. 6d.  
5 Cook's Kitchen, 49s. 10 Gt. Wh. Vor, £18 1/2 5 W. Chiverton, £24 1/2  
25 Don Pedro, £23 9s. pm. 5 Gt. Wh. Vor, £18 1/2 5 W. Chiverton, £24 1/2  
20 Drake Walls, 10s. 9d. 10 Marke Valley, £26 1/2 20 W. Gt. Work, 9s.  
3 East Basset, £20 1s. 9d. 5 North Roskear, £28 1/2 20 Wheal Grenville, 29s.  
10 E. Carn Brea, £2 1s. 3d. 40 North Crofty, £2 1s. 3d. 50 Wheal Croft, 4s.  
50 East Grenville, £13 1/2 50 Prince of Wales, 56s. 20 Wheal Ury, 30s. 6d.  
5 East Lovell, £8 18s. 9d. 1 Providence, £26 1/2 5 Wh. Trelawny, £27 1/2  
5 East Russell, 24s. 50 So. Condurrow, 10s. 5 Wh. Trelawny, £27 1/2  
15 East Caradon, £3 1/2 20 St. John del Rey, £17 1/2 1 Wheal Seton, £27 1/2  
20 South Darren, 34s.

### MR. GEORGE BUDGE, STOCK AND SHAREDEALER,

No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 19 years), has FOR SALE at net prices:—50 Colquhite and Callington United, 10 Maes-y-Safn, £28 1/2; 100 Quebrada; 200 Anglo-Brazilian, 9s. 9d.; 200 West St. Ives; 1 Minera, £200; 1 South Caradon; 50 Linares (lead); 1 Wheal Kitty, 10s.; 2 West Chiverton, £26 1/2; 15 Rose and Chiverton United; 1 Wheal Seton, £86; 3 Mary Ann, £21 1/2; 45 Don Pedro; 55 Wheal Kitty (St. Agnes); 60 Prince of Wales, 57s. 9d.; 10 Marke Valley, £26 1/2; 35 Westminster, £2 9s. 6d.; 50 Gwanton; 110 West Okel Tor; 100 Okel Tor, 15s.; 120 Lovell Consols, 9s. 6d.; 80 New Crow Hill, 12s.; 75 Great South Chiverton, 14s. 3d.; 60 Tamar Valley, 10s.; 20 West Caradon; 25 Wheal Ury, 31s.; 180 Redmoor, 3s. 9d.; 50 New Lovell, 11s.; 10 Summer Hill; 10 Foxdale; 100 Anglo-Italian; 50 United Mexican, £2 1/2; 70 Yudanmutana, 37s.

SPECIAL BUSINESS in Minera, Maes-y-Safn, Colquhite and Callington United, Cape Copper, Wheal Kitty (St. Agnes), West St. Ives, Devon Great Consols, Great North Downs, Frontino and Bolivia, and Anglo-Brazilian.

Bank and Finance Agency Business generally undertaken.

RICHARD TAYLOR AND COMPANY.

No. 12, Clement's-lane, Lombard-street, London, E.C.

### CORNWALL AND DEVON MINES.—

FOREIGN GOLD MINES, &c.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNWALL AND DEVON MINES," of Friday, March 13, No. 470, Vol. X., price 6d. each copy, forwarded on application, contains information on the following mines:—

Prince of Wales. New Lovell. West Caradon.  
Wheal Mary Ann. Drake Walls. North Roskear.  
Wheal Trelawny. North Wheal Crofty. Grambler.  
North Wheal Chiverton. East Seton. Mines Purchase.  
Great Wheal Vor. East Lovell.  
With Remarks on the Tin Trade, Mining Share Markets, Advance in the Copper Standard, &c.

THE LONDON DAILY RECORD—STOCK AND SHARE LIST—STOCK EXCHANGE SECURITIES. Published every evening at 5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks and bonds, financial, insurance, and miscellaneous shares, remarks on the daily rise and fall in prices, with advice as to purchase and sales. Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription—by post, 4s.; single copy, 1d.; by post, 2d.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London, E.C.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN GOVERNMENT BONDS, &c., forwarded to bona fide investors on application, in addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER, 79, OLD BROAD STREET, LONDON, E.C.

(three doors only from Hercules-passage, entrance to the Stock Exchange).

(Two in Cornwall and Twenty-one in London.)

Bankers: The Alliance Bank, and the Union Bank of London.

References given and required (when necessary) in all the principal towns of the United Kingdom.

### MR. EDWARD COOKE, STOCK AND SHAREDEALER,

76, OLD BROAD STREET, LONDON, E.C.

The following mines dealt in at close market prices:—East Lovell, Great Wheal Vor, Prince of Wales, West Drake Walls, West Caradon, North Wheal Chiverton, Carn Brea, Frank Mills, Calbeck Fells, North Treskerby, New Wheal Lovell, West Chiverton, Trelawny, West Kitty, East Carn Brea, Wheal Seton, North Downs, Clifford Amalgamated, and Trumpet Consols.

BUYERS or SELLERS of the above will find it to their advantage to apply to Mr. COOKE.

Satisfactory references given in any town in the United Kingdom.

Bankers: Alliance Bank.

### MR. W. H. CUELLO, (late of the firm of WATSON AND CUELLO),

Has REMOVED TO 42, CORNHILL, LONDON, E.C.

### GEORGE RICE, STOCK AND SHAREDEALER, 78, OLD BROAD STREET, LONDON, E.C. (Member of the Mining Exchange),

(25 years' experience), TRANSACTS BUSINESS IN MINING SHARES, at close prices. Money advanced on mining shares.

March 13, 1868. Bankers: Bank of England.

### MR. HENRY MANSELL, STOCK AND SHAREDEALER,

No. 44, THREADNEEDLE STREET, LONDON, E.C.

References Exchanged.—Member of the Mining Exchange.

Bankers: London Joint-Stock Bank.

### JOHN WILLIAM HUTCHINSON

offers FOR SALE, at cash net prices:—

15 Chontales, £4 1s. 3d. 10 East Russell, 25s. 20 North Treskerby, 27s.  
10 Chiverton, 25s. 10 E. Grenville, 22s. 9d. 10 North Crofty, £2 1s. 3d.  
5 Chiverton Moor, £6 1/2 20 Great Retallack, £23 1/2 25 Prince of Wales, 57s.  
5 Clifford, £6. 10 Gwanton, £23 1/2 10 Wh. Grenville, 28s. 6d.  
Parties, by applying to the above, may readily dispose of shares for which a difficulty may be experienced in finding buyers through other sources.

OFFICES—81, THROGMORTON STREET, LONDON, E.C.

### MR. JAMES HUME, STOCK AND SHAREDEALER,

74, OLD BROAD STREET, LONDON, AND MINING EXCHANGE.

Transacts BUSINESS in Railway and Mine shares at close market prices, and at margins of 1/2 and 1 1/2 per cent. respectively.

Every description of shares BOUGHT and SOLD for cash or account.

EAST CHIVERTON MINE.—Full particulars of this most promising young mine will be supplied on application to Mr. HUME.

Mr. HUME begs to refer to his remarks on the Mining Market in page 191 of this day's Journal.

Mr. J. HUME's "Circular" for March, price 6d., now ready.

Bankers: The London Joint-Stock.

### MR. R. EMERSON, 28, GREAT WINCHESTER STREET, LONDON, E.C.

WHEAL KITTY (St. Agnes).—Last week I strongly recommended the purchase of these shares. This week they have, as I expected, advanced in price, and I improve. I also predicted a great rise in Colquhite and Callington United, West St. Ives. I now repeat the advice, and say BUY in each.

### MATTHEW GREENE, STOCK AND SHAREDEALER,

1, ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.

The shares in the following mines are worth buying at present prices:—Tamar Silver-Lead, Montgomeryshire Lead and Barytes, New Clifford. Full particulars of the above on application.

Bankers: Metropolitan Bank, Cornhill, London.

Tweedy, Williams, and Co., Redruth, Cornwall.

### MESSRS. WARD AND JACKMAN, SHAREDEALERS,

CUSHION COURT, OLD BROAD STREET, CITY, E.C.

Members of the Mining Exchange, London.

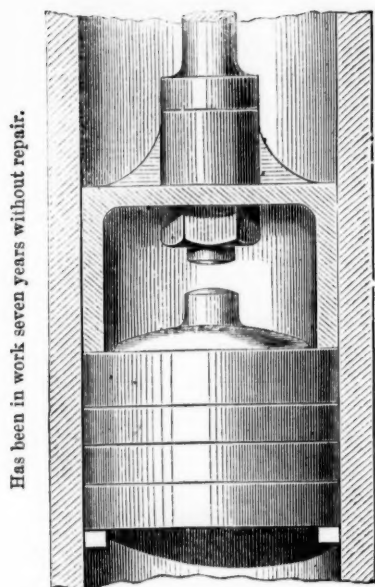
Closing prices, Friday Evening, March 13:—

Carn Brea, 18s. 10d. 19s. 6d. 20s. 6d. 21s. 6d. 22s. 6d. 23s. 6d. 24s. 6d. 25s. 6d. 26s. 6d. 27s. 6d. 28s. 6d. 29s. 6d. 30s. 6d. 31s. 6d. 32s. 6d. 33s. 6d. 34s. 6d. 35s. 6d. 36s. 6d. 37s. 6d. 38s. 6d. 39s. 6d. 40s. 6d. 41s. 6d. 42s. 6d. 43s. 6d. 44s. 6d. 45s. 6d. 46s. 6d. 47s. 6d. 48s. 6d. 49s. 6d. 50s. 6d. 51s. 6d. 52s. 6d. 53s. 6d. 54s. 6d. 55s. 6d. 56s. 6d. 57s. 6d. 58s. 6d. 59s. 6d. 60s. 6d. 61s. 6d. 62s. 6d. 63s. 6d. 64s. 6d. 65s. 6d. 66s. 6d. 67s. 6d. 68s. 6d. 69s. 6d. 70s. 6d. 71s. 6d. 72s. 6d. 73s. 6d. 74s. 6d. 75s. 6d. 76s. 6d. 77s. 6d. 78s. 6d. 79s. 6d. 80s. 6d. 81s. 6d. 82s. 6d. 83s. 6d. 84s. 6d. 85s. 6d. 86s. 6d. 87s. 6d. 88s. 6d. 89s. 6d. 90s. 6d. 91s. 6d. 92s. 6d. 93s. 6d. 94s. 6d. 95s. 6d. 96s. 6d. 97s. 6d. 98s. 6d. 99s. 6d. 100s. 6d. 101s. 6d. 102s. 6d. 103s. 6d. 104s. 6d. 105s. 6d. 106s. 6d. 107s. 6d. 108s. 6d. 109s. 6d. 110s. 6d. 111s. 6d. 112s. 6d. 113s. 6d. 114s. 6d. 115s. 6d. 116s. 6d. 117s. 6d. 118s. 6d. 119s. 6d. 120s. 6d. 121s. 6d. 122s. 6d. 123s. 6d. 124s. 6d. 125s. 6d. 126s. 6d. 127s. 6d. 128s. 6d. 129s. 6d. 130s. 6d. 131s. 6d. 132s. 6d. 133s. 6d. 134s. 6d. 135s. 6d. 136s. 6d. 137s. 6d. 138s. 6d. 139s. 6d. 140s. 6d. 141s. 6d. 142s. 6d. 143s. 6d. 144s. 6d. 145s. 6d. 146s. 6d. 147s. 6d. 148s. 6d. 149s. 6d. 150s. 6d. 151s. 6d. 152s. 6d. 153s. 6d. 154s. 6d. 155s. 6d. 156s. 6d. 157s. 6d. 158s. 6d. 159s. 6d. 160s. 6d. 161s. 6d. 162s. 6d. 163s. 6d. 164s. 6d. 165s. 6d. 166s. 6d. 167s. 6d. 168s. 6d. 169s. 6d. 170s. 6d. 171s. 6d. 172s. 6d. 173s. 6d. 174s. 6d. 175s. 6d. 176s. 6d. 177s. 6d. 178s. 6d. 179s. 6d. 180s. 6d. 181s. 6d. 182s. 6d. 183s. 6d. 184s. 6d. 185s. 6d. 186s. 6d. 187s. 6d. 188s. 6d. 189s. 6d. 190s. 6d. 191s. 6d. 192s. 6d. 193s. 6d. 194s. 6d. 195s. 6d. 196s. 6d. 197s. 6d. 198s. 6d. 199s. 6d. 200s. 6d. 201s. 6d. 202s. 6d. 203s. 6d. 204s. 6d. 205s. 6d. 206s. 6d. 207s. 6d. 208s. 6d. 209s. 6d. 210s. 6d. 211s. 6d. 212s. 6d. 213s. 6d. 214s. 6d. 215s. 6d. 216s. 6d. 217s. 6d. 218s. 6d. 219s. 6d. 220s. 6d. 221s. 6d. 222s. 6d. 223s. 6d. 224s. 6d. 225s. 6d. 226s. 6d. 227s. 6d. 228s. 6d. 229s. 6d. 230s. 6d. 231s. 6d. 232s. 6d. 233s. 6d. 234s. 6d. 235s. 6d. 236s. 6d. 237s. 6d. 238s. 6d. 239s. 6d. 240s. 6d. 241s. 6d. 242s. 6d. 243s. 6d. 244s. 6d. 245s. 6d. 246s. 6d. 247s. 6d. 248s. 6d. 249s. 6d. 250s. 6d. 251s. 6d. 252s. 6d. 253s. 6d. 254s. 6d. 255s. 6d. 256s. 6d. 257s. 6d. 258s. 6d. 259s. 6d. 260s. 6d. 261s. 6d. 262s. 6d. 263s. 6d. 264s. 6d. 265s. 6d. 266s. 6d. 267s. 6d. 268s. 6d. 269s. 6d. 270s. 6d. 271s. 6d. 272s. 6d. 273s. 6d. 274s. 6d. 275s. 6d. 276s. 6d. 277s. 6d. 278s. 6d. 279s. 6d. 280s. 6d. 281s. 6d. 282s. 6d. 283s. 6d. 284s. 6d. 285s. 6d. 286s. 6d. 287s. 6d. 288s. 6d. 289s. 6d. 290s. 6d. 291s. 6d. 292s. 6d. 293s. 6d. 294s. 6d. 295s. 6d. 296s. 6d. 297s. 6d. 298s. 6d. 299s. 6d. 300s. 6d. 301s. 6d. 302s. 6d. 303s. 6d. 304s. 6d. 305s. 6d. 306s. 6d. 307s. 6d. 308s. 6d. 309s. 6d. 310s. 6d. 311s. 6d. 312s. 6d. 313s. 6d. 314s. 6d. 315s. 6d. 316s. 6d. 317s. 6d. 318s. 6d. 319s. 6d. 320s. 6d. 321s. 6d. 322s. 6d. 323s. 6d. 324s. 6d. 325s. 6d. 326s. 6d. 327s. 6d. 328s. 6d. 329s. 6d. 330s. 6d. 331s. 6d. 332s. 6d. 333s. 6d. 334s. 6d. 335s. 6d. 336s. 6d. 337s. 6d. 338s. 6d. 339s. 6d. 340s. 6d. 341s. 6d. 342s. 6d. 343s. 6d. 344s. 6d. 345s. 6d. 346s. 6d. 347s. 6d. 348s. 6d. 349s. 6d. 350s. 6d. 351s. 6d. 352s. 6d. 353s. 6d. 354s. 6d. 355s. 6d. 356s. 6d. 357s. 6d. 358s. 6d. 359s. 6d. 360s. 6d. 361s. 6d. 362s. 6d. 363s. 6d. 364s. 6d. 365s. 6d. 366s. 6d. 367s. 6d. 368s. 6d. 369s. 6d. 370s. 6d. 371s. 6d. 372s. 6d. 373s. 6d. 374s. 6d. 375s. 6d. 376s. 6d. 377s. 6d. 378s. 6d. 379s. 6d. 380s. 6d. 381s. 6d. 382s. 6d. 383s. 6d. 384s. 6d. 385s. 6d. 386s. 6d. 387s. 6d. 388s. 6d. 389s. 6d. 390s. 6d. 391s. 6d. 392s. 6d. 393s. 6d. 394s. 6d. 395s. 6d. 396s. 6d. 397s. 6d. 398s. 6d. 399s. 6d. 400s. 6d. 401s. 6d. 402s. 6d. 403s. 6d. 404s. 6d. 405s. 6d. 406s. 6d. 407s. 6d. 408s. 6d. 409s. 6d. 410s. 6d. 411s. 6d. 412s. 6d. 413s. 6d. 414s. 6d. 415s. 6d. 416s.

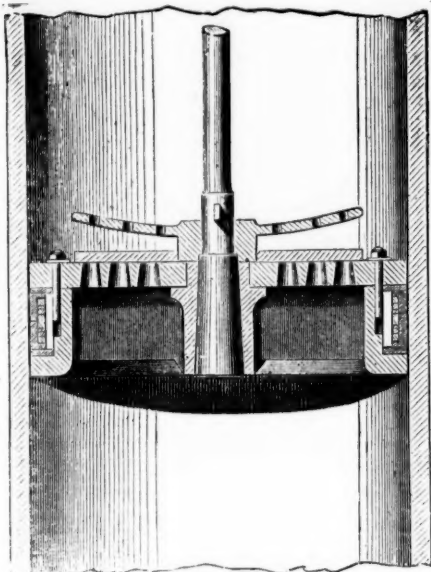


# MATHER AND PLATT

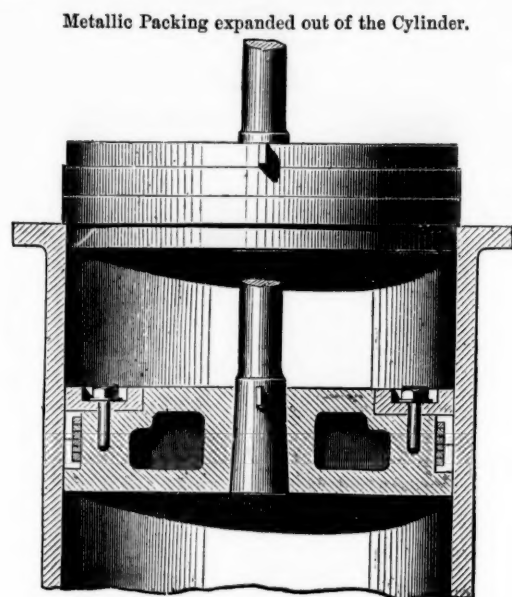
## MILLWRIGHTS, ENGINEERS, AND MACHINE MAKERS, SALFORD IRON WORKS, MANCHESTER.



COLD WATER PUMP FOR DEEP LIFTS.



AIR-PUMP BUCKET.



PISTON IN THE CYLINDER.

MATHER and PLATT beg to call the attention of ENGINEERS and USERS of STEAM POWER to their PATENT PISTONS, AIR PUMP BUCKETS, and COLD WATER PUMPS. The estimation in which these Pistons, &c., are held is shown by the fact that 4760 have been made, as well as by the following Testimonials from gentlemen whose large experience and extensive practice enable them to judge of their qualifications:—

"GENTLEMEN,—During the last 19 years, commencing in 1848, I have put in upwards of 33 of your patent metallic pistons and pump-buckets, into 49 engines and 20 pumps, under my care at the Bridgewater Trustees' Collieries. I can bear testimony to the very efficient and economical working of the same, and feel confident that with ordinary care they will give general satisfaction, wherever brought into use, possessing, as they do, many practical advantages over other pistons and buckets, being simple, durable, and effective. I have one piston (No. 671) which has been working daily for more than 15 years, one (No. 1586) 10 years, and one (No. 2246) over 7 years, without cost of repairs or trouble of any kind, except occasional cleaning. The smooth and highly polished condition of the cylinders during this length of time convinces me that the action of the metallic packing is so equable and perfect as to render the piston steam-tight and self-adjusting, without producing any appreciable friction. I have had two of your patent metallic pump-buckets working daily for over seven years, one lifting 300 feet, and one 348 feet, and both are yet performing good duty. I am now putting in one of 10 inches diameter patent buckets, to work 10 strokes, of 8 feet 4 inches per minute, under a pressure of 12 atmospheres, and feel confident of success, thus showing the superiority over other buckets, more especially where long lifts and simplicity are required. I herewith hand you an order for a 53-inch diameter piston and rod complete, also air-pump bucket, 26½ inches diameter, and rod complete. Hoping you will forward the same to these collieries as early as practicable,

"Messrs. Mather and Platt, Salford Ironworks, Manchester."

"Bridgewater Collieries, Walkden, Bolton-le-Moors, October 26, 1867.

"JESSE TIMMINS, Colliery Engineer.

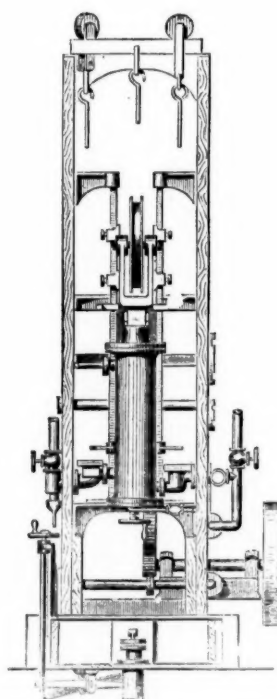
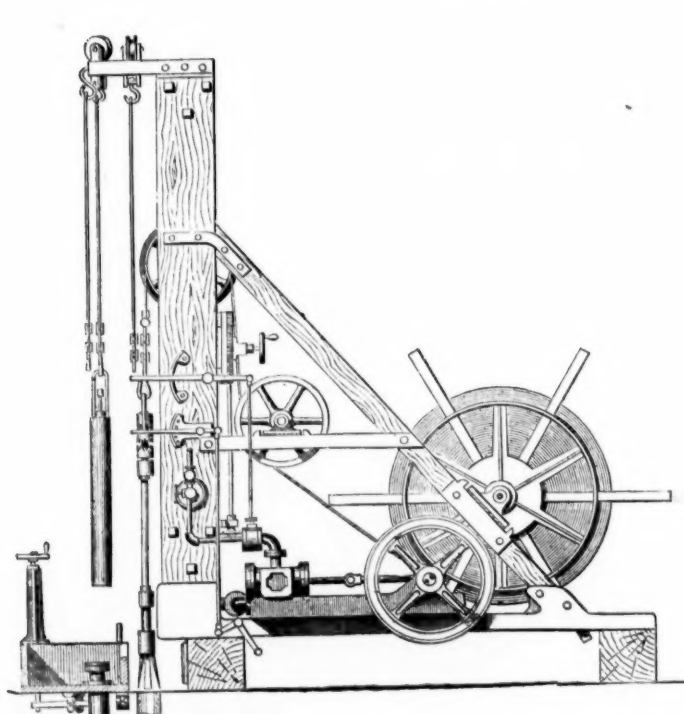
"GENTLEMEN,—I have ordered direct, or included in specifications of engines which I have prepared, upwards of 100 of your pistons and buckets, between the years 1850 and 1867, and I feel convinced they are the best pistons that have come under my notice, and if any proof was wanting as to my opinion of them, it may be found in the fact of my ordering the last 70 inch piston from you for our present works.

"Messrs. Mather and Platt, Salford Ironworks, Manchester."

"Frampton Cottrell, near Bristol, October 31, 1867.

"I remain, Gentlemen, yours truly,

"WILLIAM BAILEY.



M. and P. beg to call attention to their Revised List of Prices of VALVES, TAPS, &c. They also request the notice of Water Companies and Hydraulic Engineers to their IMPROVED SLUICE VALVES for Water. The slides have Gun-metal Facings, are of Wedge form, and when screwed down are tight on both sides:—

GUN METAL TAPS.			CAST IRON STEAM VALVES, WITH GUN METAL VALVES AND SEATINGS.			CAST IRON SLUICE VALVES, WITH GUN METAL FACINGS.		
Bore, Inches.	Price, £ s. d.		Bore, Inches.	Price, £ s. d.		Bore, Inches.	Price, £ s. d.	
3/4	0 4 0		2	1 2 6		2	1 10 0	
1	0 4 6		3	1 17 6		3	2 5 0	
1 1/4	0 6 0		4	2 15 0		4	3 0 0	
1 1/2	0 8 6		5	3 15 0		5	3 16 0	
1 3/4	0 11 0		6	4 17 0		6	4 14 0	
2	0 14 0		7	6 0 0		7	5 14 0	
2 1/4	0 18 0		8	7 5 0		8	6 16 0	
2 1/2	1 2 6		9	8 15 0		9	8 0 0	
			10	10 10 0		10	9 6 0	
			11	12 5 0		11	10 14 0	
			12	14 0 0		12	12 4 0	
			14	20 0 0		14	15 10 0	
			16	27 0 0		16	19 4 0	
			18	35 0 0		18	23 6 0	
						20	27 16 0	
						22	32 14 0	
						24	38 0 0	
						26	43 14 0	
						28	49 16 0	
						30	56 6 0	
						32	63 4 0	
						34	70 10 0	
						36	78 4 0	

## Improved Patent Earth Boring Machines

A considerable number of these Machines has been in most successful operation for some years in exploring for mineral coal and the boring of Artesian wells, for supplying many towns, manufactories, &c., with water. Upwards of 50 bore-holes, from 6 in. to 24 in. diameter, representing in all 20,000 ft. of boring, have been sunk in various parts of the world, through rocks of every form and degree of hardness, from the New Red Sandstone to the Igneous formations, as well as Chalk and the London Clay.

The Machine is worked entirely by steam-power, requiring a small boiler, from 6 to 12 horse power, according to diameter of the bore-holes. The framing is made of wood, to render the Machine of easy transport.

The rate of boring is not appreciably decreased as the depth increases, as a flat rope is used in place of rods in the old system.

The attention of those interested in Metallic Mining is called also to an

## IMPROVED BUDDLE, OR ORE WASHING MACHINE

Which they believe will be found of great benefit

TERMS AND PARTICULARS CAN BE HAD ON APPLICATION.







THE CHAIRMAN said he was informed that in the Isle of Man the level of the sea was a very important depth to reach, and that seldom above that point was anything of importance found. The deepest point yet reached in Great North Laxey was just down to the sea level, and it was of significance that just at that depth an important improvement had been made in the place of increased feed of the fish. He was, however, regarded as a very favourable location. He might mention that in the 96 fm. level a further improvement had occurred, the lode being worth between 5 and 6 cwt. per fm. In the sump, at its commencement, the lode was worth 1 ton, it then increased to 1½ ton, and was reported to be worth 2 tons per fm. per ton of the sump. He thought the lode, as it was going north, therefore, there was every reason to expect that the lode going north, would turn out to be a good level.—The motion adopting the report and balance-



sheet was put and carried unanimously. The retiring directors and auditor were re-elected.

Upon the proposition of Mr. BECKWITH, seconded by the CHAIRMAN, a unanimous vote of thanks was passed to Captain Rowe for the satisfactory manner in which he continued to conduct the operations at the mine. Captain ROWE, in returning thanks for the remarks of the Chairman—they truly had an anxious time of it, and during the past year in particular. The directors had been anxious, he also had been very anxious, had done his utmost hitherto to secure the success of the mine, and really believed they were now drawing near to that event. He would continue to use all his ability and power in order to bring about that long-desired object.

A vote of thanks to the Chairman and directors terminated the proceedings.

#### THE QUEBRADA COMPANY.

An extraordinary general meeting of shareholders (convened by requisition) was held at the City Terminus Hotel, Cannon-street, on Tuesday, Mr. OSBORNE STROCK, M.P., in the chair.

Mr. JAMES WRIGHT, C.E. (manager) read the notice convening the meeting, which (in the words of the requisition) was for the purpose of appointing a committee to enquire into the present position and future prospects of the company, and also for revising the Articles of Association, and to report thereon to the shareholders, at a meeting to be specially convened for the purpose.

The CHAIRMAN said that the present meeting had been called in accordance with the terms of a requisition, signed by a certain number of shareholders; and in order to save time he would state the course which he thought it would be desirable for them to pursue. The requisition was sent into the board by Mr. Gledhill, and, therefore he (the Chairman) would ask Mr. Gledhill, or any of his supporters present, to state their case, at the conclusion of which the board would reply. The board would then be glad to hear any observations from other shareholders, bearing upon the special object for which the meeting had been convened. (Hear, hear.) Mr. GLEDHILL said he rose to propose the first resolution. Having referred to the various circulars which had been circulated among the shareholders by himself and the directors, he proceeded to point out that his motives in desiring that an enquiry should be made into the affairs of the company were perfectly pure, which statement he felt it necessary to make, because he had been accused of being in league with expectant accountants and liquidators. He informed the meeting that the directors came into office in 1865, the old company then being in existence. Most of them were members of the committee of enquiry, by whom the proceedings of the old directors were condemned. Those directors took their places with the full approbation of the shareholders, and certainly with his. At that time there was 14 per share remaining to be called up of the old company's capital, which, of course, was called up and expended. They had gone on till the present company had arrived at the same position as the old company was in when the present directors came into office, and certainly they had come to a juncture in their history when another committee of enquiry became necessary. (Cries of "Oh! oh!" "Question, question.") He said the directors ought to have been called upon to answer the questions of the shareholders, but he had not done so. He believed them to be men of honour and integrity, although they had committed many errors. That was one of the reasons why he considered a committee of investigation should be appointed. He believed, without egotism, he might say he was chiefly instrumental in suggesting the formation of the new company, having suggested that some inducement should be offered to the then shareholders to join the undertaking when re-formed; and he had no hesitation in saying that a finer list of shareholders did not exist in any company in the City of London. All they wanted to know was what had become of their cash, and before it was too late. The sole object of the provisional committee was to obtain the appointment of an impartial committee of investigation. When the present directors came into office, their cry was—"The rail, the whole rail, and nothing but the rail!" and how many miles did the shareholders think had been constructed? Why, two. (Mr. Consul HEMMING: "Shame, shame.") As to the balance-sheet, which, however, was not a balance-sheet, but merely a statement of the books having been simply handed over to the auditors, whose remuneration was fixed by the board—he had no hesitation in saying was not a correct statement. He did not say it was a garbled statement, but he did say it was not a correct statement. "Oh! oh!" and "Where are the auditors?" Take the preamble of the Articles of Association: he believed it could be easily explained, but he found no notice taken of the single shares subscribed by those who signed the Memorandum of Association—that is, they were not accounted for. As to the company's debts, as to the directors' fees, he found that in the last balance-sheet 6657, 18s. 4d. was paid, which was for eight months' services, whereas they had given eleven months of their valuable services. Why, he asked, was not the balance inserted as a liability? As to the balance of uncalled capital—he did not wish to be too hard upon the directors, because, as far as he was concerned, there was not the smallest particle of ill feeling towards them, for he believed them to be gentlemen of honour, both in their private and public capacity, and he could not accuse them of anything improper, but at the same time they might be guilty of errors of judgment; but recollecting that there remained but 14 per share to be called up, he contended they had no right to expend the company's capital in prospecting for silver and gold mines, as the completion of the railway was the one desideratum. According to the evidence of eminent engineers, the remaining capital would be more than ample to communicate the mines with the coast. Colonel Strange had told them the same thing, and why it should be estimated the original cost would be exceeded. He believed the communication would be effected within the capital. As to the debentures, that was a very serious matter, because they were not ordinary debentures, but positive mortgages, issued to bear 10 per cent. interest, and at 30 discount—that would form another subject for enquiry, and, therefore, he called upon the meeting to support the provisional committee in their self efforts, as they were before them with clean hands and clear consciences. (Cries of "Oh! oh!") He then moved the resolution.

"That a committee of shareholders be appointed to enquire into the present position and future prospects of the company, and to revise the Articles of Association, and to report thereon to the shareholders at a meeting to be specially convened for that purpose."

Mr. ROGER FENTON said, as a supporter of the board, he came forward to second the proposition. Let there be appointed an impartial committee of investigation to see if a new course could be struck out for conducting the enterprise, and bring it to a successful issue within the limits of the present capital.

Mr. T. G. TAYLOR said he had looked in vain for some specific charge against the directors, who were respected of doing something, and in order to find out this something the shareholders were called together. What was the result? Why, an unmeaning nothingness. (Hear, hear.) Was the credit of the company to be depreciated, and the time of the shareholders wasted, by such contemptible child's play. This so-called self-elected provisional committee had charged the directors with something they were afraid to avow; and, therefore, in their pitiable helplessness they suggested the appointment of a committee of investigation. (Hear, hear.) Mr. Gledhill had alluded to the accounts, but as those accounts were passed and adopted at a previous meeting was he, he asked, fair to attempt to re-open them? Did they believe in the integrity of their auditors, whose reputation had been attacked by Mr. Gledhill?

The CHAIRMAN said that the auditors were Messrs. Lovering and Minton, professional accountants—a highly respectable firm; and the accuracy of accounts to which their signatures was attached could not be disputed. (Hear, hear.)

Mr. TAYLOR said the only complaint having the semblance of tangibility, which had been levelled against the directors, was that only three miles of the railway had been completed during three years, which was fully explained by circumstances over which the directors had no possible control; but one offence charged against the directors was that they had not given Mr. Gledhill the credit for having suggested something, although he told them the directors had adopted his suggestion with regard to the formation of the company. (Laughter.) Then Mr. Gledhill wanted his money back—and who did not? (Renewed laughter.) Again, there were the debentures, but, as Mr. Gledhill said, the directors had not surely it was obvious even to Mr. Gledhill that the shareholders had the matter under their control, and in their hands, by taking the debentures themselves, or possibly the committee might render them some assistance in the way of placing some among its members. (Hear, hear.) Mr. Gledhill was anxious to impress upon the meeting the idea that his motives were perfectly pure—certainly there was no accusation against the board. But was it worth while for common sense men to be listening to these insinuations, and to be told that the whole world—first of all there was Mr. Consul Hemming, who was visibly disappointed, because he did not succeed in obtaining the appointment of manager; and now they had Mr. Gledhill, who appeared to be ranking under a similar disappointment, arising from the circumstance that the shareholders had not appreciated his services to an extent sufficient to induce them to elect him as a director. (Hear, and laughter.)

Mr. SALMON (a director) said that the meeting had now heard the charges which had been levelled against the directors, and, with the consent of the meeting, he would reply. In the first place, he might inform the meeting that if such movements as these were to be continued, if such untruthful insinuations were to be bethorned out against the board, the shareholders must not be surprised if they vacated their seats as directors. It would, no doubt, be within the recollection of most present that in April last their old antagonist—Mr. Consul Hemming—for whom in some things he had respect, for instance, his pertinacity—levelled certain charges against the board, and the result was certainly not disastrous to the directors. But then they were told by the Consul that he had something in preparation which should shortly appear in full bloom. The promised something came, but in the interim the Consul sold his shares. (Oh! oh!) His last transfer came in about June last, so that he must have realised for them something like 20s. per share; but the Consul, only last week, bought his shares back again at about 5s. "Oh! oh!" Mr. Consul Hemming: "It is not true." The Consul said he was not here, but it so happens that he bought them of one of his (Mr. Salmon's) clients, and he (Mr. Salmon) attested the transfer. (A voice: "Nobody believes the old gentleman now.") In October, the Consul's long-promised pamphlet appeared, at which time the Consul held the important interest of five shares; but now, gentlemen, after the agitation, which had depreciated the market value of the property, the Consul held 105 shares; but, at the same time he had profited a considerable amount by the transaction. The Consul said it showed that the Consul's confidence in the management of the company had not entirely gone, although, after he had sold his shares, he told the shareholders it had. (Hear, hear.) Now, nothing had been heard of the Consul since the meeting at which a resolution was submitted deprecating his proceedings as most unjustifiable, but which resolution was not passed, the meeting yielding to the suggestion made by Mr. Latham Browne, that, however much the company, because it might act prejudicially against him in connection with the Venezuela Government; but, although the Consul had been apparently silent, there were strong grounds for suspecting a connection between him and Mr. Gledhill. And for this reason, that, in April, the Consul proposed that Mr. Gledhill should be elected a director, but there was no election. At the October meeting, however, Mr. Gledhill thought it would be well if the directors could take the Consul into their confidence and embrace him, with all his faults and infirmities—indeed, become a member of the board. Therefore, there was reason to suspect the existence of some connection between these two great antagonists to the board. Mr. Gledhill told them that the proceedings of the company should be denounced, and ended that part of his argument by a most extraordinary statement—that the directors had tried to put off

the meeting until after the call became due. What was the fact? Why, the directors convened the meeting some days before it became due, so as to afford all shareholders a full opportunity of voting upon the present occasion. (Hear, hear.) Such a proceeding as that imputed to the directors would have been most respectable, had they been guilty of it. Mr. Gledhill had told them that he had been chiefly instrumental in the reconstruction of the company; but he (Mr. Salmon) was sorry that Mr. Gledhill had kept back from the shareholders the fact that in his suggestion, which was really the only important part of it—because the part adopted not only naturally occurred to every shareholder, but came from 25 different sources—but Mr. Gledhill made the suggestion, which the directors did not adopt, that, for the payment of 20,000l., he (Mr. Gledhill) could only for the company some financial help. Mr. Gledhill said that the railway had been completed three miles only in three years; no one knew better than Mr. Gledhill that the contract was signed only last April, since which the engineers and the staff left England. Reference had been made by Mr. Gledhill to the B shares; nothing could be more ungracious, for Mr. Gledhill knew perfectly well that they never had been issued. As to the balance of the calls, to which Mr. Gledhill had referred, he (Mr. Salmon) might inform the meeting that out of the eight who had signed the circular only yesterday paid no two calls in which he was in arrears. He would say no more about Mr. Gledhill, but there was another gentleman who figured here—a Mr. Gedge. Now, Mr. Gedge was partner with Mr. Merriek, the late solicitor to the company. He (Mr. Salmon) was afraid they had nothing to thank Mr. Gedge for, as he was, no doubt, trying to pay off an old grudge, which he considered he owed the directors. As to Mr. Gedge—or rather his firm—when the previous agitation existed one ground of complaint, which he (Mr. Salmon) considered a reasonable one, was that Messrs. Merriek and Gedge were acting solicitors for Messrs. Bird and Hemming, the parties from whom the company purchased the property, and Messrs. Merriek and Gedge were also solicitors for the company. As an independent shareholder, he (Mr. Salmon) took exception to that position, and when he had been elected to a seat at the board he suggested the desirability of having independent solicitors, and eventually Messrs. Merriek and Gedge resigned. Another paragraph in the "circular" stated that when the present board came into office, they received every possible information and assistance from their predecessors. Now what was the fact? Why, so far as he knew, not a single member of the old board ever came into the board-room after the new board had been appointed; and as to Messrs. Merriek and Gedge, they continued to have all the papers which would have been very useful indeed during the litigation then pending. They continued to withhold those papers from the newly appointed solicitors to the company, and although they were applied for in October, 1865, they were not obtained till October, 1866, and then, not until their bill was paid—which, by the way, had to undergo the routine of taxation. The bill amounted to 920l., but upon taxation it was reduced to 126l., and by a compromise a further reduction was effected of 55l., rather a material proportion of the amount. Therefore, it was not true that the present directors had received every possible information and assistance from their predecessors. So much for Mr. Gedge. Another name attached to the circular was that of a reverend gentleman, Mr. William Palin, whose son was removed from the service of the company, but in the absence of the son he would say no more about the matter, although he did not think the effect that Mr. Palin had had the friendship of the father since he resigned a claim for 1937, sent in by the son, and who ultimately agreed to take 387, giving a receipt in full. And this had, no doubt, some connection with what appeared in the *Morning Herald*, *Standard*, *Railway News*, and *Investors' Guardian*, for he (Mr. Salmon) had in his possession a letter written by the Rev. Mr. Palin, which was as follows:—

"August 31, 1866.—MY DEAR SIR: The editor of the \* \* \* is my brother-in-law; and I know the City editor very well. Could I do anything in that direction to help the Quebrada at this critical moment? Of course, I am not contemplating any direct and obvious puff; but if anything be inserted, such as a London alderman would prize even beyond champagne. A land whose hills are brass and its stones iron—a land which might be flowing with milk and honey; and all this within 21 days of Southampton, and linked to us socially by a fortnightly mail. And yet but a handful of people in this country know anything about it! Millions are not wanting for doubtful investment abroad, but here is an enterprising company (the Quebrada) pioneering to certain and even boundless wealth, and yet has a difficulty in raising from 50,000l. to 60,000l. How is this?"

A SHAREHOLDER: That must have been written after dinner. (Laughter.) Mr. SALMON said the next charge levelled against the directors was that they had illegally trafficked in the shares. Although that statement had been put forward in print, not one who attached their name to it had dared to refer to it to-day. Had the statement been true that the directors had trafficked in the shares, they would deserve the greatest reprehension, but when the world is informed that the directors had illegally trafficked in the shares, this is a far graver statement, and one which the assenters of it must answer for in another court than this. (Cries of "Shame, shame.") A London alderman would prize even beyond champagne that charge was made had availed himself of the power given by the Act of inspecting the register of members, or he would have known that the statement was based on a lie. An inspection of the register would have shown that the Chairman held 210 shares at the commencement of the company, which he holds still; that Mr. Salmon did hold 270, and now 270; that Mr. Weston still holds his 210; that Colonel Strange had increased his holding from 330 to 350; that Mr. Robins still holds the 210 shares which he still holds 600. (Hear, hear.) Where, then, was the ground for this base charge? (Loud cheers.) It was reasonable—was it common justice—to ask the directors to submit to a proposition emanating from the mouthpiece of those who had been parties to such a charge? It was the duty of the requisitionists to have made enquiries, before commencing such an injurious agitation, or making such charges. Another charge was that the shares had been rendered unsaleable; and he (Mr. Salmon) would very much wonder if these shares, which had been sold at a high price, would be otherwise. The directors had had three primary things to contend against—firstly, they started during a severe panic; secondly, they had to make calls; and thirdly, the attacks. The directors were not responsible for the panic, they could not help making calls, and they certainly could not help the attacks. (Hear, hear.) He might inform the meeting that at least two of the parties who had signed the circulars had taken advantage of the low price of the shares (which, by the way, he had attempted to raise) and had sold them at a low price, and he would say no more about the debentures, and had stated in his circular of January 15 that the debentures were unsaleable, whereas the fact was that not a single debenture left the office until Jan. 28, which was 13 days after the statement was made. Mr. Gledhill had also said "that we could not float them." But who had tried to float them before he began his letter writing? And more than that, the directors had no right to float them. They had never attempted to float them, and, as a single debenture had ever been offered to a human being, except the contract. (Hear, hear.) And, how many had been issued altogether of these alarming documents? Why, all even the contractors had taken did not exceed in value 3500l. It was also said that the expenses of management had been greatly increased; but what was the fact? Why, during the four years prior to the establishment of the present company, the average cost of management in this country and abroad had been 1482l. per annum, but during the first year of the present company's existence it was 121,000l. That instead of the expenses of management having very much increased, had actually decreased. (Hear, hear.) Another charge was that the directors had quarrelled with the contractors. All knew that, even with the most honestly inclined contractors, there was sure to be a different mode of calculation; and, therefore, it was not surprising if there should be what was pleased to be called a quarrel. The fact was the directors had resisted a claim made by the contractors, and had taken the work in their own hands. (Hear, hear.) Another charge was that the directors had been guilty of gross malpractices. One grave reason for suspecting malpractices has received confirmation from the virtuous indignation professed by the board, and the manner in which they had met our proposal for enquiry. When the directors read that statement they issued a reply, by stating that if the shareholders endorsed it by appointing a committee of enquiry, the directors would regard it as an earnest that that confidence which had ever existed between the shareholders and the directors was still in the hands of the shareholders, and expect the board to sit quietly under them, he was afraid the shareholders would have to find a body of gentlemen of somewhat different temperament to that possessed by the present members. (Hear, hear.) Whatever vote might be come to upon the present occasion, and even supposing that Mr. Consul Hemming were appointed chairman, and Mr. Gledhill the manager, yet, in the face of all this, the present directors could never forget the unvarying kindness and confidence which they had ever received at the hands of the shareholders of the Quebrada Company. Mr. Salmon, after an address which occupied more than an hour in its delivery, then resumed his seat amid loud and protracted cheers.

Mr. STOCKDALE said that after the able and conclusive speech of Mr. Salmon, and the impotent arguments of Mr. Gledhill, he wished to state that although he had been induced to give Mr. Gledhill his proxy in favour of his resolution, he now would most emphatically state that he wished to withdraw that proxy, and vote in favour of the resolution. (Hear, hear.)

A SHAREHOLDER said he had been induced by Mr. Gledhill's proceedings to travel a distance of more than 200 miles, and he thought after the miserable exhibition—which strikingly reminded him of the fable of the mountain in labour which brought forth a mouse—that he had, at least, an equitable claim upon Mr. Gledhill for travelling expenses. (Laughter.)

Mr. COUNSELLOR PEGLAR (Southampton) said he was an original shareholder, and probably one of the first subscribers, and he was astonished that anybody in the City of London should have the audacity to convene a body of gentlemen together to hear such a statement as that made by Mr. Gledhill. (Hear, hear.) It was perfectly clear that the statements put forward in the various circulars had no shadow of foundation in fact, and he was perfectly astounded that anyone could be found to put their names to such calumnious charges. (Hear, hear.) He felt fully convinced that Mr. Salmon was an honest man, and that he had delivered an honest statement. (Hear, hear.) He concluded by moving the following amendment:—

"That the nature of the charges brought by Mr. Gledhill against the directors being of too trivial a character to affect either the personal honour of the board or the position of the company, and the meeting having full confidence in the board of directors as at present constituted, hereby resolve that it is inexpedient to appoint a committee of investigation."

Mr. COUNSELLOR CLAPHAM (Leeds) seconded it.

Mr. GEDGE then addressed the meeting at some length, during which he stated that the various charges put forth were believed to be true, the information having been given to him by somebody whose name, notwithstanding the almost unanimous demands of the meeting, he declined to disclose.

Mr. Consul HEMMING also attempted to deliver himself, but the meeting declined to give him a hearing. Upon his assurance, however, that he would not detain them more than five minutes he was allowed to proceed. The Consul having occupied more than the allotted time in referring to matters which had no bearing upon the question before the meeting, he was compelled involuntarily to resume his seat, which he did during the most indescribable uproar.

Mr. GLEDHILL expressed a desire to withdraw his resolution, but the meeting insisted upon its being put.—The CHAIRMAN then put the amendment, when

the whole of the shareholders, with only two dissentients, voted in its favour. The resolution was consequently negative.

The CHAIRMAN then said there was no one who courted enquiry and investigation more than his colleagues and himself, but they thought when gentlemen commenced a course of agitation it was due to the directors that they should at least ascertain some facts before they imperilled the property of the shareholders by embarking upon a course which could not fail to have a depreciating effect. (Hear, hear.) The directors could most truthfully say that had Mr. Gledhill, or those with whom he was associated, taken the trouble to have called at the office they would have ascertained all the information they required. (Hear, hear.) As an evidence that the board courted the fullest enquiry and investigation, he would now move that a committee of conference be appointed, consisting of shareholders entirely unconnected with the directors or Mr. Gledhill. (Loud cheers.)

Mr. SALMON, having seconded the proposition, it was put and carried with acclamation.

The following gentlemen were elected members:—Messrs. James Thompson, Birmingham; A. Currie, Devonshire; R. Hurd, engineer, Rochdale; T. Styling, Huddersfield; A. Peglar, Southampton; and T. Clapham, Leeds.

Upon a resolution being proposed that the travelling expenses of the members of the committee of conference should be defrayed, Mr. GLEDHILL suggested that the expenses that had been incurred by the "provisional committee" should also be liquidated by the company, but the suggestion was met with derisive laughter. The former proposition was carried.

A special meeting was held, at which a resolution was passed declining to continue the construction of the railway beyond Palma Sol.

A cordial vote of thanks to the Chairman and directors terminated the proceedings.

#### "THE TREASURES OF THE EARTH."

The mineral wealth of the country is of such importance to all classes of the community, seeing that it is its possession that every branch of our national industry and commerce owes its existence, that a popular account of the "Treasures of the Earth; or Mines, Minerals, and Metals," \* will prove interesting to a very large number of readers. The circumstance that the author dedicates the book to his children will suffice to show that it is adapted to the wants of those who require an attractive style; and upon perusing the work it will be found that such a style has been maintained throughout; he has well succeeded in combining amusement with instruction, and appears at the same time to have been careful that the information given shall be thoroughly reliable. Mr. Jones reminds his readers that when Gustavus Adolphus, King of Sweden, wished to descend into the copper mines of Fahlun, his courtiers begged him not to risk his life. "A king," he replied, "is not worth a straw who does not look into his treasury." On arriving at a freshly-hewn chamber, where the copper ore shone bright and glittering, he exclaimed, "What should such a potentate be who possesses a palace like this?" and observes that these were the wise words of a great monarch, who could appreciate the bounty of Providence in storing up the treasures of the earth for the welfare of his people.

Visits to mines, the treatment of metals and minerals, and the various uses to which they are applied are each referred to; yet technicalities have been so carefully avoided that the book may be put in the hands of children with the utmost confidence that it will interest them. The earlier scriptural records of the precious metals, the ancient operations of the ancients, alchemy, and the philosopher's stone, are, of course, referred to; whilst in the second chapter there is a good account of where the precious metals are found; and in subsequent chapters the reader is introduced to the silver mines of South America, coals and coal mining, the copper and tin mines of Cornwall and Devonshire, mines under the sea, iron and its uses, mining adventure in Russia, the lead mines of England and Spain, diamond mines and celebrated diamonds, the quicksilver mines of Almaden, California, and Idra, and the salt mines of Wieliczka and Halle, much interest being added to the narrative by the introduction of anecdotes of miners and accounts of their superstitions, perils, and escapes, and of curious discoveries in mines. With regard to the superstitions of miners, the chapter devoted to them gives a very interesting account of the principal delusions. The British miners are not troubled, like their brethren in Germany, with visitations of kobolds, but they hear underground the noise of the "knockers," believed by some, as Mr. Kingsley states, to be the spirits of Jews who were sent to work in the mines by the Roman emperors. These knockers dwell exclusively in the Welsh mines, but there are similar spirits in the mines of Cornwall, Staffordshire, and elsewhere; the accounts of the good and evil spirits are as startling as concise. The anecdotes and sketches are admirably given, and from the general character of the book it cannot fail to become a great favourite in every household to which it obtains admission, and that should be in every one whose head is desirous that valuable information should be conveyed in a pleasing form.

\* "The Treasures of the Earth; or Mines, Minerals, and Metals: with anecdotes of men who have been connected with mining." By WM. JONES, F.S.A. London: Frederick Warne and Co., Bedford-street, Covent-garden.

#### "TECHNOLOGICAL DICTIONARY."

The enormous progress which has been made in science and manufactures during the past half-century, both in England and on the Continent, has resulted in the coining of so many new words to express ideas of a special nature, and with which the general public have no conception, that to the practical man ordinary dictionaries have long since become comparatively valueless; which is the more annoying owing to the intimate connection that has sprung up between the industrial classes of the various countries whose inventors have contributed to extend the frontiers of human knowledge, and to the improvements and discoveries, and for the establishment of permanent friendships. To remedy this inconvenience, arising from the inability of men of the same trade, but of different nationality, to communicate with each other, the late Mr. J. A. BEIL undertook the arduous task of compiling a complete technological dictionary in the three principal languages of Europe—English, French, and German—the third volume of which has just been issued after careful revision by the most competent authorities connected with the several branches of industry referred to.

The "Dictionnaire Technologique" embraces the technical terms employed in the arts and manufactures; in civil, military, and naval architecture; in bridge building, road making, and railway works; in mechanics; in machine shops, artillery, navigation, mines and smelting works, mathematics, physics, chemistry, mineralogy; and indeed in every art and science connected with the general business of every-day life. Now, the value of a work of this class, of course, depends entirely upon the amount of reliance that can be placed upon it, and in the present work every effort seems to have been taken to ensure absolute accuracy. The correction of the terms connected with each subject has been entrusted to a separate editor engaged in the particular business referred to. Thus, the mining, salt works, and tunnelling terms have been placed under the supervision of Mr. E. Althaus, mining engineer, of Halle, whilst Mr. L. Baeh, engineer, of Linden, near Hanover, has given his attention to the terms relating to the construction of machinery and steam-engines; Major J. Hartmann, and in the construction with military affairs; Mr. Hoyer, of the Polytechnic School of Hanover, chemistry, technical and industry, &c.; Dr. O. Moles, architecture, sculpture, building materials, &c.; Prof. W. Unverzagt, of the Wiesbaden Gymnasium for the mathematical sciences; Prof. Wedding (who so ably represented the mining and metallurgical industries of Prussia at the London Exhibition in 1862, and at Paris in 1867), smelting works, mining and manufactures of metals, and subjects connected therewith; Prof. Sandberger and authorities have supervised the other parts of the book. The arrangement of the work is admirable, the word defined being printed in a fat-faced type, which causes it to stand prominently forward from the definition, so that the labour of consulting it is much lessened. The Dictionary will prove of vast utility to a very large number of persons both in England and abroad, and certainly deserves the patronage of men of business generally.

\* "Dictionnaire Technologique, Français-allemand-anglais." By Dr. C. RUMPF and Dr. O. MOLES, assisted by numerous collaborators. London: Trübner and Co., Paternoster-row.

#### MINING NOTABILIA

CHONTALES GOLD AND SILVER MINES.—At last we are beginning to see the effect of all the "bearing" of these shares, a strong reaction having already set in; and this is but the first gleam of the coming sunshine, for when the machinery at Paven is in working order I think we may calculate upon grinding per month 2000 tons of ore, the yield of which may be only 1 oz. per ton, or it may be higher, or 2 or 3 ozs., unless the sample sent home are not to be relied on as a fair average. Then we shall have all the rich pillars of ore from Consuela, which alone will be some thousands of ounces. If all goes well the additional wheels at Paven will be proceeded with, when there will be sufficient power to crush and grind 8000 tons per month. San Antonio and St. Domingo are likely to turn out well, and I fancy the large lode at Paven will prove ultimately very rich in silver. If the directors would be more liberal in their payments for wages to the natives we should retain good men, and there would be fewer mishaps.

OLD RUSSELL is getting another good pile of ore ready for market. The TAVISTOCK DISTRICT is showing increased prosperity; several mines are looking well, and only require a better price for copper, which will, no doubt, soon be obtainable. Many mines will then give dividends instead of making calls.

PRINCE OF WALES.—The next sale of ore from this mine will be good. Some difference of opinion existed between the various inspecting agents as to the produce of the ore, which led to an assay of samples being made by Mr. Jenkins, of Callington, when, to their great surprise, it was proved that the two stones assayed gave—one upwards of 26 per cent., and the other upwards of 28 per cent.; this is from the 55 west. A question exists as to whether the lode is not so rich as it is generally supposed to be. Let the shareholders be careful not to be frightened by the "bear" of the "Copper."

THE HINGSTON DOWN DISTRICT.—It was some years since predicted by the discoverer of Devon Great Consols that the whole of Hingston hill and valleys would be dotted with engine-houses, and give employment to thousands of miners. West Prince of Wales and West Drake Wells will be in the market shortly, and there is every indication of their becoming prosperous.

PENHALE UNITED SILVER-LEAD MINES.—Operations are progressing satisfactorily. A parcel of lead will soon be dressed up for market, and every exertion is being made to get to the bottom of the mine.

ST. JUST AMALGAMATED MINES.—These extensive mines are now opening up very well, and in the course of a few months it is expected that production will be made monthly. These mines are down to the 100 fm. level, and there is every prospect of their opening up well in depth.

COLOQUITE AND CALLINGTON.—Operations are being vigorously pushed on, and according to a statement recently made by a first-rate practical miner great success may be looked for. They have a splendid lode of ore in Colouite shaft, and it is no wonder that the progress of the mine is watched with so much interest.



## Mining Correspondence.

## BRITISH MINES.

**BEDFORD CONSOLS.**—J. Mitchell, March 11: Saturday last being our pay and setting day, the following bargains were let:—A cross-cut to drive south of engine-shaft in the middle adit level towards the tin lode by two men and two boys, at 8l. 10s. per fathom, 1 fm. stent. The ground at this point is still mixed with spar and capel, containing spots of mundle and copper ore, and letting out a little water. A cross-cut to drive south of air-shaft, in the middle adit level towards the Gawnon lode, by four men, at 6l. 10s. per fathom, 2 fms. stent. The joints of the killas in the present end are thickly impregnated with spots of mundle and copper ore, and the ground is very wet; this looks well for the lode when intersected.

**BEDFORD UNITED.**—J. Phillips, March 11: We have put in pent-house and completed the shaft to the 90 fm. level, and resumed sinking. The lode in the shaft is 4 feet wide, worth about 3 tons of ore per fm., or 6 tons for the length of shaft. The lode in the 90 fm. level east is 3 feet wide, producing 3 tons of ore per fm. We are driving by the side of the lode in the 75 east. The stopes in the bottom of this level are suspended, until communication is made to the 90 fm. level, when the ore can be taken away at great advantage. The winze in the 62 fm. level is sunk to the 75, this winze is in advance of the 75 end, which will be communicated in about a month. The lode in the winze is about 2 feet wide, worth from 3 to 4 tons of ore per fm.

**BEDOL AU.**—H. R. Harvey, March 12: The ground in the 100 west, on the Miller lode, continues fair for progress; there is a good deal of water issuing from the lode. The 100 south, on the 86 Vincent lode, is getting into better ground, and looking more promising for ore. The rise in the back of the 100 is rather stiff. Hugh's stope, in the back of the 77, is looking better; we got some fine lumps of ore from there to-day. Jones's pitch, in the bottom of the 77, is looking better; they are getting some good stones of lead from about the "swallow," but it is too irregular to value. T. Jones's pitch is yielding ½ ton of ore per fathom. Leigh's pitch is producing 7 cwt. of ore per fathom.

**BOTTLE HILL.**—J. Eddy, March 12: We are continuing our driving west in the 12 fm. level, on south lode, by six men. The lode now in the end is about 3 feet wide, and producing some good work for tin. The ground now in the present end is easy for driving. The above pair (six men) have driven the last week 2 fathoms. Judging from the work done this last week, we shall get under the trial-shaft, where we may expect to meet with the shoot of tin in it, and making down in the bottom, in about five or six weeks from this time. The tribute ground east, in same level, is about the same as when last reported. The tribute ground on main lode, both in the 12 and 24 fms. levels, is without alteration. Our samples will be off on Saturday next; the quantity about 4 tons.

**BRADDA.**—R. Barkell, March 4: The engine-shaft is down for another level, and we commenced a cross-cut to the east lode yesterday; ground in salt cross-cut, rather hard and wet. The 40 north, on east lode, is letting out water freely, and in the fissures there is a great deal of native copper. The jumpers, by lying half-an-hour in the water, are coated over with copper, and look like copper bars; this water must be emanating from a body of mineral somewhere. The stopes in the back of this level are yielding ½ ton of copper per fathom. The cross-cut going west at this level, to cut the Bulwark lode, is in a good channel of ground for mineral. Good progress is being made in driving Prior's lode; the same remark will apply to the sinking of Spittal's shaft; the lode in this shaft is still composed of gossan, spar, and copper, but not enough of the latter to value. We have to-day taken samples for our first parcel of copper ore (50 tons) the advice of which I sent you by this post.

**BRONFLOYD UNITED.**—T. Kemp, March 11: Setting for March: Since last report the new shaft has been sunk 6 feet below the 63 fm. level; the shaftmen are now engaged in cutting ground for elstern, &c. To drive and stope to the west of cross-cut in the 63, set to six men at 50s. per fm., lode worth 35 cwt. of ore per cubic fathom. The 62 end, east of Barton's cross-cut, to drive on the north part of the lode, set to two men, at 30s. per fm. The stope under the 62, is set to eight men, at 45s. per fm., lode worth about 35 cwt. of ore per cubic fathom. The stope to the east of winze, above the back of the 52 fm. level, is set to eight men, at 40s. per fm., lode worth fully 20 cwt. of ore per cubic fathom. The stope to the west of winze, above the back of the same level, is worked by four men, by day work, lode worth 20 cwt. of ore per cubic fathom. We are obliged to suspend the driving of the 40 end west for a time, as the stuff broken from this level is in the way.

**CAPE CORNWALL.**—Richard Pryor, Francis Hosking, March 10: We set the following bargains on Saturday last:—The 100 fm. level to drive east of engine-shaft, by four men, at 6l. per fathom; the lode is 4 feet wide, and producing some fine stones of tin. The winze to sink below the 90 fm. level, east of shaft, by six men, at 7l. per fathom; the lode is 3 feet wide, producing saving work for tin. The 70 fm. level to drive west of engine-shaft, by four men, at 3l. 5s. per fathom; the lode at this point is 4 feet wide, and producing stones of copper and low quality tin.

**CARADON CONSOLS.**—S. Bennetts, March 10: The south shaft has been opened out sufficiently for a single skip-road to bottom; this road is already fixed to the 58, and we hope to have it completed to the bottom by the end of another week. The shaft is now the full length in all places, except a few fathoms between the 34 and 44, and between the 58 and 68, where a little further lengthening will be required, should the pitwork at any time have to be removed from the old shaft to this one. The sinking of this shaft has been continued to the 78 where a cross-cut is extended south about 1½ fms., and north 2½ fms.; at this point Clynno's lode is found much the same as it mostly is by this cross-course, small and unmet, yet not without good stones of ore; it has been driven on west 2½ fms.; in the present end it is getting better defined, more regular, and of a very promising character, and about 1 foot wide, composed principally of peach, and floor-spar, mixed throughout with yellow copper ore. The 68 has been further extended west some 7 fms. through ground which has produced from 1 ton to 1½ ton to the fathom, and continues to yield about the same quantity; the lode varies in width from 1 to 3 ft. The lode is thus far more productive than in the 58 over this ground, better defined, and far more regular. Some 7 or 8 fms. beyond this end is a small spar-cross-course, seen near the present 58 end. A winze has been commenced below the 68, and sunk about 2½ fms.; the lode here is 2 to 3 ft. wide, and has yielded from 3 to 3½ tons of ore to the fathom; at present, however, it is not quite so productive; the lode maintains its width, but the ore is evidently dipping west. The stopes above the 58 have not been near so productive as they were the quarter previously; in fact, they seem to have reached the top of the payable ore ground, and have for some time been suspended; yet I think the same sheet of ore may be found still higher up on the east side of the cross-course. In reference to the future operations I would suggest the propriety of continuing on the 68 and 78 ends west, the winze below the 68, and also the 78 north, so as to see the gossan lode at that level; the main lode too, should not be lost sight of, and looking at the improved appearance of Clynno's lode from the 58 to the 68, I see no reason to doubt a further improvement at the 78; and should this prove correct, those other side lodes will most assuredly prove productive, and a good and lasting mine be the result.

**CARGOLL.**—J. Grose, R. Tzyzer, March 10: Mitchell's engine-shaft is sunk 8½ fms. below the 140; the lode is 3 ft. wide, composed of much blende, with good stones of lead ore. In the north end the ground is rather stiff, with a rich leader of lead ore, 4 in. wide. In the 130 south the lode is divided by a horse of killas, 4 ft. wide, with a small leader of lead on the west side, and on the east side the lode is 1½ ft. wide, composed of quartz and lead ore—a promising level. In the back of the 110 north, from point of rise, is producing good stones of lead ore.—Purser's Shaft: In the 60 the caunter lode is 2½ ft. wide, composed of flookan and soft quartz, with fine lead interspersed throughout, letting down water, and likely to improve. In the 40, north from Sargent's, the lode is large and leady. We sold on Friday last 131 tons of blende, realising 470l.; and on Friday next we shall sample about 67 tons of lead.

**CARN CAMBOINE.**—John Truscott, March 11: The engine-shaft is sinking below the 70, the ground in which is favourable. The 70 is driving west, where the lode is poor, in the 60 west the lode is worth 12l. per fm. In driving the cross-cut north at this level the ground is without alteration. The men in the 70 west are rising in back for ventilation, where the lode is worth 10l. per fm. The 40 west is producing stones of ore. In the 30 west the lode is worth 7l. per fm.

**CHIVERTON.**—J. Juleff, John Borlase, March 12: Cookney's shaft is sunk below the 120 fm. level 2½ fms.; lode 8 ft. wide, composed of flookan, spar, mundle, and spots of lead. We have cut a part of the lode in the 120 fm. level cross-cut north, and we are still encountering a mass of mundle, as the water is still issuing from the end. The 110 east is producing stones of lead. In the 100 east of Murray's, we are cross-cutting north in search of the north part of the lode. In the 78, east of old engine-shaft, the lode is 2 ft. wide, of spar, flookan, white iron, and mundle. There is no alteration in the cross-cut north at this level. At the cross-cut south we have got through the elvan, and are into a good lead-bearing killas. From the present indications we think the cross-cut is getting near the south lode.

**CHIVERTON MOOR.**—J. Juleff, W. Bennetts, March 12: The engine-shaft is now 2½ fathoms below the 75. The 65, west of engine-shaft, is worth 5 cwt. of silver-lead per fathom. In the 65, east of engine-shaft, the lode is 2 ft. wide, with a promising appearance. The 75 fm. level cross-cut is now driven 14 fms. south of the engine-shaft; the ground is rather spare for progress. The 65, east of flat-rod shaft, is producing 6 cwt. of lead per fathom. In the rise above the 65, west of the flat-rod shaft, the lode is worth 5 cwt. of lead per fathom. The stopes continue to look well.

**COLQUHITT AND CALINGTON UNITED.**—J. Evans, T. Doidge, March 12: The 20 is driven north 7 fathoms; the lode varies in size from 2 to 6 ft. wide, and for the last 5 fathoms drive is spotted with silver-lead. The Colquhitt shaft is now down below the adit level about 10 fathoms on the lode; the lode here is from 5 to 6 ft. wide, composed of silver-lead and mundle, and of the latter will produce 5 tons per fathom. We are very much pleased indeed with the appearance of the lode, and we fully expect in going down that a course of silver-lead will be met with. Every department is carried on with all possible speed, and economy strictly adhered to.

**CREBLAKE.**—William Skewis, William Hooper, March 12: In the 74 fm. level west the lode is 1½ foot wide, yielding a little mundle. The lode in the 62 fm. level west is 3½ feet wide, composed of mundle, spar, and copper ore, but not to value. The lode in the winze, sinking below this level is 2 feet wide, composed of strong mundle, capel, and copper ore, worth 6l. per fathom. In No. 1 stope, in back of this level, the lode is worth 7l. per fathom, and No. 2, 9l. per fathom. The rise in the back of the 60 west the lode is worth 12l. per fm. In driving the cross-cut north at this level the ground is without alteration. The men in the 70 west are rising in back for ventilation, where the lode is worth 10l. per fm. The 40 west is producing stones of ore. In the 30 west the lode is worth 7l. per fm.

**GLASGOW CARADON.**—W. Taylor, March 9: No change in the cross-cut in the 78 fm. level west. In driving east from the winze in the bottom of the 65, towards this level, the lode is worth from 12l. to 15l. per fm.; we are pushing on these two points. The stopes in the back of this level are yielding the usual quantity of ore. The new lode in the 78 west, is producing good stones of ore, and improving as we get off the cross-course. In the 65 west the lode is worth 7l. per fathom. In the 65 east the lode is worth 5l. per fm. In the 52 west the lode is worth 4l. per fm. The stopes on this lode continue to look very well.—New South Lode: In the 65 west the lode is worth 12l. per fm. In the 65 east the lode is worth 8l. to 10l. per fathom, and likely to improve. We finished sampling to-day, computed, 217 tons, which will be sold at Redruth on the 26th inst.

**GUTHRIE.**—John Williams, March 12: We succeeded in boring a hole through from the winze to the rise on Monday afternoon, and now the men can work and fork the rise, as the air is much better. We have been drawing from the 40 fm. level the stuff from the rise, and to-morrow four men will begin to rise to the east end of the 40; four men to the west, and four men to the east of the winze. We have about 5 tons of ore ready, and next week I must have three or four more on the floors for dressing ore. I hope to see you on the mine next week to arrange our future workings.

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the lode in the 142, east of the cross-cut, the lode is very large, and producing good work for tin. As far as seen the lode is worth 20l. per fathom. The ground in the 130, driving west by the side of the lode, is still favourable for progress. The lode in the different stopes throughout the mine is without alteration, and continues of the same value as last reported on.

**DEVON AND CORNWALL UNITED.**—T. Neill, March 10: George and Charlotte: The lode in driving west of the cross-cut is looking very promising.—William and Mary: The lode in the 34 east is very kindly ore, at present worth 2 tons of ore per fathom. The lode in the 34 west is worth 1 ton of ore per fm. In the 22 west we have cut a small cross-course, which has for the present disordered the lode. I hope, however, for an improvement to the west. The pitches are producing fair quantities of ore.

**DRAKE WALLS.**—T. Gregory, March 12: In the 50, east of Brenton's shaft, we have discovered some good branches of tin, 4 fms. south of the old workings, on which we have commenced to drive east. I have no doubt whatever but that we shall open an extensive run of tin ground in this direction. We are now getting on more satisfactorily on the new dressing-floors, which will enable us to begin long to increase the returns of tin.

**EAST CARADON.**—John Truscott, March 11: Caunter Lode: We are driving the 115 east by the side of the lode. The 100 east is worth 8l. per fathom. The 100 west is poor. The 90 east is worth 5l. per fathom.—South Lode: The 70 west is worth 5l. per fathom.—Childs's Lode: The 80 east is producing saving work. The 80 west is worth 10l. per fathom. The 70 east is worth 12l. per fathom.

**EAST DARRIN.**—March 10: Prior's Shaft: In the 116 east the lode is 1½ yard wide, not looking quite so well as when last reported, now producing 1½ ton of lead ore per fathom. In the 104 east, the lode is 2 yards wide, intermixed with lead ore throughout, producing 1½ ton per fathom. In the 92 east the lode is 1 yard wide, composed of a dark clay-slate, and small branches of lead, but not of much value. In the same level west the lode is ½ yard wide, producing about 4 cwt. of lead ore per fathom. In the 80 east the lode is ½ yard wide, producing saving work for dressing of a low quality. In the 65 east the lode is large, containing small strings of ore, but not to value. In the new shaft at Blaenwen the men are getting on with the sinking as fast as possible. The tribute pitches throughout the mine are without any change, but yield good quantities of ore.

**EAST PROVIDENCE.**—J. Nancarrow, W. White, March 7: At our usual survey, to-day, the following work was set:—Boorman's engine-shaft to sink below the 106 by six men and three boys, at 20l. per fm. The 106 to drive east, by four men at 8l. per fm., lode unproductive. The 94 to drive east on the Caerau, by four men, at 4l. per fm., lode improving. The winze to sink below the 82, by six men, at 8l. per fm.; here the lode is large and tinny, but is rather disordered by a crossing. The lode in the 82 east is rather larger than last week. The 70 east to drive by four men, at 6l. per fm.; the end is letting out a great deal of water, and looks very promising. The 50 to drive east, by two men, at 6l. per fm.; the end is opening tribute ground. We have also set eight pitches to sixteen men, at an average tribute of 11s. in 12.

**EAST ROSEWANE.**—C. Glisson, March 12: We have taken down the lode in King's shaft, and it is looking very well, 12 ft. wide, worth 10l. per fathom. There is no change to note in the 105 west since my last report. In the 105, east of shaft, the lode is 12 in. wide, worth 3l. per fathom. In the 95, west of shaft, the lode is 12 in. wide, worth 7l. per fathom. In the 95, east of shaft, the lode is 15 in. wide, worth 5l. per fathom. In the 85, west of shaft, the lode is 12 in. wide, worth 7l. per fathom. The stopes in the back of the 95, east of shaft, are worth 6l. per fathom each. A stope in the back of the 85, east of shaft, is worth 7l. per fathom. Three stopes in the back of the 85, west of the shaft, are worth 7l. per fathom. The copper ore sold this day realised 839l. 2s. 6d.

**EAST SNAEFELL.**—W. H. Rowe, March 10: The lode in the bottom of the shaft is getting wider, and looking better for lead this week. Having cut out sump head, we have now fairly started with the sump in the 15 south, but can say but little about the lode for a few days yet. The ore ground in the roof appears to get more unsettled and irregular as we rise; I shall, therefore, use every effort to get downwards as fast as possible.

**EAST SNAEFELL.**—W. H. Rowe, March 10: The lode in the bottom of the shaft is getting wider, and looking better for lead this week. Having cut out sump head, we have now fairly started with the sump in the 15 south, but can say but little about the lode for a few days yet. The ore ground in the roof appears to get more unsettled and irregular as we rise; I shall, therefore, use every effort to get downwards as fast as possible.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, W. Bennetts, March 11: The shaftmen are now engaged sending down the plunger-lift at the 110, and which they will finish forthwith, consequently they have done but little towards the sinking. The lode in the 110 west, is 2 ft. wide, composed of peach, quartz, &c., producing ore and tin worth 8l. per fm. The stopes above this level are yielding about 1 ton to the fathom. The lode in the 110 east, is 2½ ft. wide, worth 15 in. wide, of quartz, &c. We have set the 95 to drive east on the caunter on tribute, where the lode is worth for ore and tin 6l. per fathom.

**EAST WHEAL LOVELL.**—R. Quentrell, March 11: North Lode: The lode in the 60 fm. level west is worth 12l. per fm. The stope in the back of the 45 west is worth 20l. per fm., and the eastern stope 12l. per fm.—South Lode: The stope in the bottom of the 40 is worth 30l. per fm., and in the back 20l. per fm. The winze sinking below the 45 fm. level is worth from 90l. to 100l. per fm.

**EAST WHEAL LOVELL.**—R. Quentrell, March 11: North Lode: The lode in the 60 fm. level west is worth 12l. per fm. The stope in the back of the 45 west is worth 20l. per fm., and the eastern stope 12l. per fm.—South Lode: The stope in the bottom of the 40 is worth 30l. per fm., and in the back 20l. per fm. The winze sinking below the 45 fm. level is worth from 90l. to 100l. per fm.

**EAST WHEAL LOVELL.**—R. Quentrell, March 11: North Lode: The lode in the 60 fm. level west is worth 12l. per fm. The stope in the back of the 45 west is worth 20l. per fm., and the eastern stope 12l. per fm.—South Lode: The stope in the bottom of the 40 is worth 30l. per fm., and in the back 20l. per fm. The winze sinking below the 45 fm. level is worth from 90l. to 100l. per fm.

**EBURY.**—F. Evans, March 11: The lode driving east of Evans's shaft, in the 54, is 3 ft. wide, and producing excellent lead, worth about 1 ton per fathom. We are erecting a horse-wheel for winding, and shall, after it is completed, drive westwards.

**FRANK MILLS.**—J. P. Nicholls, J. Cornish, F. Cornish, March 11: In the 145 north, on the west lode, we continue to get frequent small deposits, or nests, of lead ore, associated with white iron and quartz, and accompanied by a flookan on the western side. From the very promising appearance of the lode in this end we are daily expecting an improvement. The 145 south, on the same lode, occasionally produces good saving work, and is also looking very promising for an early improvement. The stope in back of this level, on the east lode, is yielding 1 ton of lead ore per fathom. The stope in the 130 north, is 2½ ft. wide, consisting of white iron, quartz, and lead ore; a leader on the west part of the lode is yielding 7 cwt. of the latter per fathom, and presenting a better appearance than at any period since starting from the main cross-cut. The stope in the back of this level, south from the cross-cut, on the east lode, is yielding ½ ton of lead ore per fathom. We have got through one part of the lode in the hard cross-cut driving east from the 115 north, which consists principally of white iron and quartz, thickly impregnated with fine lead. We are now sinking a stiff capel, and think we have more lode to the east. The stope in the back of this level, on the west lode, is yielding ¼ ton of lead ore per fathom; and the stope in the back of the same level, on the east lode, is yielding ½ ton of lead ore per fathom. The stope in the back of the 100 is yielding ½ ton per fathom. In the 60, driving north from Hayman's old cross-cut, the lode will yield ¼ ton of lead ore per fathom. In the end driving south from said cross-cut the lode at present is small and poor. The lode in the stope in back of this level is yielding ½ ton of lead ore per fathom, on an average. The tribute department is looking as well, and yielding quite a much lead, and for some time past.

**GAWTON COPPER.**—G. Rowe, G. Rowe, Jun., March 7: During the past week we have been engaged in cutting a trip-plat on the new engine-shaft below the 70 fm. level, which is in a forward state, so that we have commenced drawing ore from that level. The part of the lode being carried in the 70, west of cross-cut, is yielding 1 ton of ore per fathom. We purpose to continue this driving on the north part of the lode for some short distance further before cross-cutting south towards the middle branches, which are large, and likely to be the most productive part going west. The lode going east at this level is exceedingly large, yielding very strong mundle with good stones of ore. The lode in the 60 east is improving in character, worth 2 tons of ore per fathom. The lode in the stopes in bottom of the 60, west of winze, is worth 3 tons of ore per fathom. The stope in back of same level, west of winze, is worth 4 tons of ore per fm. Adam's stope, in back of the 50 west, is worth 2 tons of ore per fathom. Sprague's stope, in back of the 50, east of cross-cut, is worth 4 tons of ore per fathom. O'Flant's stope is worth 2 tons of ore per fathom. The stope in back of the 50 east, is worth 3 tons of ore per fathom. Walter's stope, in back of the 40 east, is worth 3 tons of ore per fathom. Beer's stope, in back of the 38, is worth 4 tons of ore per fathom. All other points of operation are without change.

**GLASGOW CARADON.**—W. Taylor, March 9: No change in the cross-cut in the 78 fm. level west. In driving east from the winze in the bottom of the 65, towards this level, the lode is worth from 12l. to 15l. per fm.; we are pushing on these two points. The stopes in the back of this level are yielding the usual quantity of ore. The new lode in the 78 west, is producing good stones of ore, and improving as we get off the cross-course. In the 65 west the lode is worth 7l. per fathom. In the 65 east the lode is worth 5l. per fm. In the 52 west the lode is worth 4l. per fm. The stopes on this lode continue to look very well.—New South Lode: In the 65 west the lode is worth 12l. per fm. In the 65 east the lode is worth 8l. to 10l. per fathom, and likely to improve. We finished sampling to-day, computed, 217 tons, which will be sold at Redruth on the 26th inst.

**GUTHRIE.**—John Williams, March 12: We succeeded in boring a hole through from the winze to the rise on Monday afternoon, and now the men can work and fork the rise, as the air is much better. We have been drawing from the 40 fm. level the stuff from the rise, and to-morrow four men will begin to rise to the east end of the 40; four men to the west, and four men to the east of the winze. We have about 5 tons of ore ready, and next week I must have three or four more on the floors for dressing ore. I hope to see you on the mine next week to arrange our future workings.

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and which we believe is destined, when properly developed, to lay open a valuable property.—No. 2 Lode: The engine-shaft to sink below the 30 at the same price as last—290s. per fathom; lode 15 in. wide, and worth 3 cwt. of silver-lead to the fathom. We have a beautiful channel of ground in this shaft; and we, therefore, think in depth the lode is likely to become a very valuable one. The 30 south by two men, at 42s. per fathom; lode 2 feet wide, with good lumps of lead embedded in quartz and white iron—a strong and masterly lode. The stope above this level by two men, at 17s. 6d. per fathom; lode worth 5 cwt. of silver-lead per fathom. The 30 north by four men, at 45s. per fathom; lode 15 in. wide also producing good lumps of lead, but not to value; here we anticipate meeting with an improved lode. The stope above this level by four men, at 17s. 6d. per fathom; lode worth 4 cwt. to the fathom. The 20 south by two men, at 90s. per fathom; lode 18 in. wide, of white iron and quartz, and containing stones of lead; here we think, as soon as we meet with an easier channel of ground, of a bunch of ore will be the result. The 20 north by two men, at 35s. per fathom; the ground in this end is very much improved, and looking far more promising for lead. We have to-day set a winze to sink below this level, where the lode in driving through was worth 2 tons of lead to the fathom; this is a good speculation.

**GREAT SOUTH CHIVERTON.**—J. Nancarrow, March 11: At our survey to-day the following work was set:—The 20 to drive east, by two men, at 3l. per fm.; the lode is 2 ft. wide, and has a good appearance for lead. The rise above the 30, two men and two boys, at 7l. per fm.; this is likely to be communicated with the winze below the 30 about a week. The 20 to drive west, by six men, at 4l. per fm.; the lode looks well; the lead continues, and there is a regular leader towards the bottom of the end. The 40 to drive north, by six men, at 10l. 10s. per fathom; the end is getting wet, and the ground is altering as we approach the lode. The 50 to drive north, by six men, at 8l. 10s. per fm.; the ground is of the same congenial character for lead as in the upper levels. The 50 to drive east, on the south lode, by three men and three boys, at 5l. per fm. The lode improves in appearance as we drive.

**GREAT SOUTH TOLGUS.**—J. Daw, March 11: In the 150 fm. level, east of Noel's shaft, the lode is 1 ft. wide, producing 2 tons of ore per fm. In the 150 fm. level, west of shaft, the lode will produce 1 ton of ore per fathom. In the winze sinking below the 140 fm. level, and east of shaft, the lode will produce 3 tons of ore per fathom, but we are obliged to suspend it, having an increase of water. No alteration in any other part of the mine.

**GREAT WHEAL BADDERN.**—R. Pryor, H. Tregoning, March 7: We have no particular change to notice in the 75 fathom level cross-cut, south of Hill Brothers engine-shaft, during the past week; the ground continues much the same for driving, and the water is flowing freely from the present end. In the 75, driving west from the cross-cut, on the Baddern lead lode, the ground is favourable for driving, and in congenial strata for minerals; lode looking promising, about 2 ft. wide, and containing occasional spots of lead, mundle flookan, and spar.

**HAIRWOOD.**—John Race, March 7: There is no alteration to note in the end of the level going north at Scar Head. The end and stopes east in north string are as last reported. I have set them to drive east in new vein, north of Trough level, which looks very promising—beautiful spar and other minerals. We are up to Morman cross veins in opening into Trough level, and are now open to Trough. The "old men" have done little here but drive their levels about 10 fms. east of the cross vein in an east and west vein, and about 6 fms. north and south in the cross vein. I will send a sample to sell 20 tons of ore with next week.

**HINGSTON DOWN CONSOLS.**—Thos. Richards, March 11: Bailey's engine-shaft, sinking below the 140, is not at present so productive; for the length (12 ft.) it is worth 25l. per fathom. The 140 east is a very favourable and promising appearance, and is worth full 30l. per fathom. The stopes in the bottom of the 130 east are worth on an average 25l. per fathom. The stope in the back of the level is worth 20l. per fathom. The stope in the back and bottom of the 130 west are worth 18l. per fathom. The stope in the bottom of the 120 east is worth 20l. per fathom.

**LYLWERNUG.**—J. Davis, March 11: There is no alteration in the lode at the 62 end, still the shaft, to which we have before referred, makes our progress in that level very slow. We shall continue the driving of the lode until we suspend operations to remedy this evil. I also intend to sink a winze from the 50 about 20 fathoms west of engine-shaft, which will come through about 10 fathoms in advance of the present end of the 62, and this work can, I think, go on while the shaft is under alteration. The lode in the 4



to drive north of Reddipper shaft, by two men, at 5l. 10s. per fm.; the lode at present is not to value, but has a kindly appearance. The 20 to drive north of shaft; by four men, at 7l. per fm., and 5s. in 1l. tribute; the lode is worth 6l. per fm. The 10 to drive north of shaft, by four men, at 2l. per fm. and 5s. in 1l.

WHEAL SPARNON.—March 7: Belfry Shaft: The lode in 15 east end is improving in appearance, and produces stones of copper ore. The lode in 15 west end is producing saving work for copper ore.

ease, and thence conducted to a lasting perfect cure. Both ointment and pills are innocent in composition; both are gentle in operation, and assist each other in helping, never harming nature's acknowledged laws.



## Projected New Companies.

Company.	Capital.	Shares.	Each.
United Club and Hotel.....	£ 15,000	3,000	£ 5
Sheffield Wagon.....	100,000	5,000	20
Stafford Colliery.....	20,000	10,000	2
Land and Building.....	20,000	4,000	5

**SHEFFIELD WAGON COMPANY, 100,000L.** in 5000 shares of 20L each, with power to increase.—The objects for which the company is established are the purchasing, or otherwise acquiring, of wagons to be used and employed on railways and tramways. The letting, leasing, selling, and supplying of such wagons to railway companies, coal proprietors, and other persons. The repairing and maintaining of such wagons, and the doing of all other things necessary, or apparently desirable, for carrying on the business of wagon proprietors; and the providing of all accessory services connected with, or in furtherance of, the general undertaking. The purchasing, or otherwise acquiring, the business, property, or rights of, and amalgamating and making arrangements with, any companies, corporations, or persons carrying on business of a similar nature. The doing of all such other things as an incidental or conducive to the attainment of the above objects. The Memorandum was signed by—R. W. BROCCO, Bank, Sheffield, slate merchant, 100; G. PADLEY, Gill-street, Sheffield, borough accountant, 20; JAMES ALLAN, Britannia Metal Manufacture, Andrew-street, Sheffield, 50; ISAIAH DANKS WADDEY, Hanover-square, Sheffield, auctioneer, 25; W. M. CLAYTON, 51, Wicker, Sheffield, chemist and druggist, 50; W. M. DODD, 50, Church-street, Sheffield, wholesale grocer, 20; CHAS. SHARFAN, Wolsingham-road, Sheffield, cutter, 10. The number of directors not to be more than ten, nor less than six, to be elected on the first general meeting; until such election the subscribers of the Memorandum of Association shall be the directors. The qualification of a director shall be the holding of not less than 25 shares in his own right. The remuneration of the directors shall be determined by the company from time to time in ordinary meetings. The bankers of the company shall be "The Sheffield Banking Company, pany." The solicitors of the company shall be Messrs. ROGERS and THOMAS, of Sheffield. The business of the company shall be carried on by, or under the management of, the directors, but subject to the control of general meetings at the office, Pricedaux-chambers, Change-Alley, in Sheffield.

**STAFFORD COLLIERY COMPANY, 20,000L.** in 10,000 shares of 10L each, with power to increase.—The objects for which the company is established are the purchasing, leasing, and working the Stafford Colliery, near Loughor, in the county of Glamorgan, and other mines of coal, tin, iron, copper, ironstone, fire clay, and other metals and minerals, and the sale of such minerals and metals for profit, and also the crushing and dressing of such minerals, and also for making coke, and the doing of all such other things as are incidental or conducive to the attainment of the above objects. CHARLES PERCY, solicitor, 73, Finsbury-street, Kentish-town, Middlesex, 5; WILLIAM HARRAL JOHNSON, gentleman, 4, Abchurch-lane, Northumberland-street, Tottenham, 5; LEONARD BLACKBURN, jun., 9, Willsingham-terrace, Kentish-town, 5; WILLIAM EUGENE MOLONY, gentleman, 21, Gurney-road, Leytonstone-road, Stratford, 5; A. J. BODDINGTON, accountant, 70, Cheapside, City, 5; RICHARD GEORGE PENSON, 3, Whitlington-road, Asylum-road, Peckham, 5; ALFRED RESTELL, surveyor, 1, Argyle-street, Euston-road, W.C., 5. The number of directors shall not exceed five, the names of the first directors shall be determined by a majority of the subscribers to the Memorandum of Association, or a majority of the shareholders. Until directors are appointed the subscribers of the Memorandum of Association shall for all the purposes of this Act be deemed to be directors. Every director to be hereafter appointed must hold 100 shares at least in the capital of the company. The directors to be appointed shall be entitled to receive, by way of remuneration, the annual sum of 400L, and an additional 100L for each additional dividend of 5 per cent. paid in any one year, beyond an original dividend of that amount, and such remuneration shall be divided among the directors who themselves shall determine. The directors shall be at liberty to commence and proceed with the business of the company as soon as they shall think fit, notwithstanding that the whole of the share capital of the company may not have been subscribed for and taken.

**"JOINT-STOCK COMPANIES' DIRECTORY."**—The fourth annual edition—that for 1868—of the extremely valuable Directory bearing this title has just been issued, by Messrs. CHARLES BARKER and SONS, the advertising agents, of Birch-in-lane, carefully revised and corrected throughout. Although the crisis of May, 1866, had the effect of stopping the extension of joint-stock enterprise, there can be no question that the many advantages of association in the carrying out of great public and industrial undertakings is fully recognised and appreciated. The information given with regard to the various foreign loan transactions has been brought down to the date of publication, and the value of the present edition is much enhanced by the insertion of an ably written review of the Companies Act, 1867, and of the latest Stock Exchange Regulations with respect to the appointment of settling days, both of which are of great general importance. The Directory will prove a most useful guide to all concerned, either in the promotion or management of joint-stock companies.

**NEW QUEBRADA COMPANY.**—As will be seen by the details of the meeting (which appear in another column), the shareholders unanimously decided that the nature of the charges brought against the directors was too trifling in character to affect either the personal honour of the board or the position of the company, and the meeting having full confidence in the board of directors, as at present constituted, considered it inexpedient to appoint a committee of investigation. As soon as this resolution was passed, the Chairman (Mr. Osborne Stock, M.P.) proposed, on behalf of the board, the appointment of a committee of conference, which received the cordial assent of the meeting. It is to be hoped that, since such conclusive testimony has been adduced in support of the present executive, all interested will henceforth co-operate towards ensuring its success.

**GOLD MINING IN ITALY.**—The Pestarena Company have received 788 ozs. of gold from the mines. The report of the agents will be found in another column.

**NEW GREAT CONSOLS.**—The large 80-inch pumping engine was started on Tuesday, in the presence of several of the principal shareholders in the company. The starting was eminently successful, the engine working admirably. The directors and shareholders afterwards dined together at Webb's Hotel, Liskeard. Mr. H. L. Phillips (the managing director), in proposing "Success to the New Great Consols," alluded to the acquisition of an engine which would enable them to develop the property effectively, and the result of doing so he hoped, as, indeed, he believed, would be the possession of a permanently valuable property. He congratulated Messrs. Loam and Son, the engineers, upon the way in which the engine had gone to work, and he trusted that Capt. Pryor's anticipations of success would be realised. A better piece of ground he did not believe could be found in the county; and as a proof of the confidence he and his friends felt in the undertaking, he might mention that these in the room represented nearly 12,000 shares. The lode they were going to work upon had already returned many thousands of tons of ore, and they knew that they could sell 500 tons bi-monthly as soon as the mine was drained; and, should the slightest improvement arise in the quality of the ore, there could be no doubt whatever that New Great Consols would take a leading position in the county.

**SAFETY APPARATUS FOR ENTERING FOUL AIR.**—Some four years since reference was made in the *Mining Journal* to an improved apparatus, invented by Mr. GALIBERT, of Paris, and intended for use in places wherein the existence of foul air or poisonous gases would render it dangerous to enter, and since that time the invention has been very extensively adopted both in Paris and in other parts of France. Since the first introduction of the invention, Mr. Galibert has discovered that by substituting a stout kind of Mackintosh cloth for the goat skin in the construction of the air reservoir greater durability and efficiency are secured, at a smaller cost, and on Thursday a series of interesting experiments were made under the direction of Mr. T. Brown, C.E., in London, for the purpose of showing the great value of the invention in facilitating the rescue of persons and property from burning houses. For the information of those who did not avail themselves of the opportunity of examining and testing the apparatus when first brought forward, it may be stated that it consists of an air reservoir, with two tubes attached, one for the exhaled air extending just within the top of the bag, the other for the air to be inhaled to near the bottom. The outer ends of the tubes are connected with a single mouthpiece, and the person using it secures all the advantages of valves (without the danger which might arise from valves being used and getting out of order), by simply placing his tongue alternately in one or other of the orifices therein. Goggles are employed to protect the eyes from irritation, and the nostrils are closed by a small spring clip. The bags used on Thursday were of the capacity of about 20 gallons, and the efficiency of the arrangement may be fairly judged of from the circumstance of a large number of the visitors, many of whom had never before entered foul gases, or seen the apparatus, having used it without inconvenience to enter a close room, purposely filled with a very foul and poisonous smoke, and remained therein for from 10 to 20 minutes. Mr. Galibert's apparatus has been adopted in France by the Ministry of Marine, the Paris Fire Brigade, and by numerous other public bodies and private firms; and as it is alike applicable to rescuing persons and property from fires, and from mine workings filled with choke-damp, or other deleterious gases, its extensive adoption in this country also, as soon as its merits are made more generally known, may be confidently anticipated.

**SHAREHOLDER'S NON-LIABILITY AS CONTRIBUTORY.**—Gunn's case in re the Universal Banking Corporation (Limited), was where the party had applied for 10 shares in the company, and sent with his application the required deposit money. A receipt for this was forwarded to him, but he never received notice of any allotment, nor was he ever called upon to pay the amount required to be paid upon allotment. But the company allotted to him the shares for which he had applied, and entered his name in respect of them on the register of shareholders. Five months afterwards he wrote to enquire when he should hear of an allotment, and was answered that the matter should be enquired into. Nothing passed during the next two months, when a winding-up order was made. It was held by Vice-Chancellor Stuart (whose decision was affirmed on appeal) that as there was nothing to show that the offer to take shares had been accepted by the company, there was no perfect contract between the parties, and that the name ought not to be inserted in the list of contributories.

\* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Royal School of Mines: Mr. Warrington Smyth's Lectures (continued)—Mining in Canada, Annual Review—On the Waste of Mineral and Other Natural Products—The Progress of Mining, as a Science and Source of Commercial Wealth—Papers on Practical Mining—Swan River Coal and Brick Company Meeting—Mosquito Land Securities—Great Laxey Mining Company—Snaefell Mining Company—West Caradon Mining Company—Foreign Mine Reports, &c.

## The Mining Market; Prices of Metals, Ores, &amp;c.

METAL MARKET—LONDON, MARCH 13, 1868.

COPPER.				IRON.			
Best selected, p. ton	79	0	81 0 0	Bars Welsh, in London	6	5	0
Tough cake and tile	76 <td>0<td>78 0 0<td>Ditto, to arrive</td><td>6<th>5</th><th>0</th></td></td></td>	0 <td>78 0 0<td>Ditto, to arrive</td><td>6<th>5</th><th>0</th></td></td>	78 0 0 <td>Ditto, to arrive</td> <td>6<th>5</th><th>0</th></td>	Ditto, to arrive	6 <th>5</th> <th>0</th>	5	0
Sheathing & sheets	82 <td>0<td>83 0 0<td>Nail rods</td><td>6<td>15<td>0</td></td></td></td></td>	0 <td>83 0 0<td>Nail rods</td><td>6<td>15<td>0</td></td></td></td>	83 0 0 <td>Nail rods</td> <td>6<td>15<td>0</td></td></td>	Nail rods	6 <td>15<td>0</td></td>	15 <td>0</td>	0
Bolts	83 <td>0<td>—<td>Do., in London</td><td>7<td>6<td>10</td></td></td></td></td>	0 <td>—<td>Do., in London</td><td>7<td>6<td>10</td></td></td></td>	— <td>Do., in London</td> <td>7<td>6<td>10</td></td></td>	Do., in London	7 <td>6<td>10</td></td>	6 <td>10</td>	10
Bottoms	86 <td>0<td>88 0 0<td>Do., ditto</td><td>7<td>7<td>6</td></td></td></td></td>	0 <td>88 0 0<td>Do., ditto</td><td>7<td>7<td>6</td></td></td></td>	88 0 0 <td>Do., ditto</td> <td>7<td>7<td>6</td></td></td>	Do., ditto	7 <td>7<td>6</td></td>	7 <td>6</td>	6
Old (Exchange)	63 <td>0<td>70 0 0<td>Hoops ditto</td><td>8<td>7<td>6</td></td></td></td></td>	0 <td>70 0 0<td>Hoops ditto</td><td>8<td>7<td>6</td></td></td></td>	70 0 0 <td>Hoops ditto</td> <td>8<td>7<td>6</td></td></td>	Hoops ditto	8 <td>7<td>6</td></td>	7 <td>6</td>	6
Burra Burra	83 <td>0<td>83 0 0<td>Sheets, single</td><td>9<td>2<td>6</td></td></td></td></td>	0 <td>83 0 0<td>Sheets, single</td><td>9<td>2<td>6</td></td></td></td>	83 0 0 <td>Sheets, single</td> <td>9<td>2<td>6</td></td></td>	Sheets, single	9 <td>2<td>6</td></td>	2 <td>6</td>	6
Wire	0 <td>1<td>0 10 0</td><td>Pig No. 1, in Wales</td><td>3<td>15<td>0</td></td></td></td>	1 <td>0 10 0</td> <td>Pig No. 1, in Wales</td> <td>3<td>15<td>0</td></td></td>	0 10 0	Pig No. 1, in Wales	3 <td>15<td>0</td></td>	15 <td>0</td>	0
Tubes	0 <td>0</td> <td>11 10 0</td> <td>Do., No. 2, ditto</td> <td>4<td>0<td>0</td></td></td>	0	11 10 0	Do., No. 2, ditto	4 <td>0<td>0</td></td>	0 <td>0</td>	0
BRASS.				IRON.			
Sheets, per lb.	9d.	10d.		Do., No. 3, ditto <td>5</td>	5	7	6
Wire	8	4	9	Do., common ditto	5	7	6
Tubes	10	6	11	Do., mch. Tycor Tees	6	10	0
SPELTER.				IRON.			
Foreign on the spot	£	s.	d.	Do., railway, in Wales	5	5	0
" to arrive	20	5	0	Do., Swed. in London	10	0	10
ZINC.				IRON.			
In sheets	£	s.	d.	To arrive	10	0	10
English blocks	96 <td>0</td> <td>0</td> <td>Pig No. 1, in Clyde</td> <td>2</td> <td>13</td> <td>0</td>	0	0	Pig No. 1, in Clyde	2	13	0
Do., bars (in barrels)	97 <td>0</td> <td>0</td> <td>Do., No. 2, Tycor Tees</td> <td>2</td> <td>9</td> <td>0</td>	0	0	Do., No. 2, Tycor Tees	2	9	0
Do., refined	99 <td>0</td> <td>0</td> <td>Do., No. 3, f.o.b. do.</td> <td>2</td> <td>6</td> <td>0</td>	0	0	Do., No. 3, f.o.b. do.	2	6	0
Banca	93 <td>0</td> <td>0</td> <td>Railway chairs</td> <td>5</td> <td>10</td> <td>0</td>	0	0	Railway chairs	5	10	0
Straits	91 <td>10</td> <td>0</td> <td>Do., spikes</td> <td>11</td> <td>0</td> <td>12</td>	10	0	Do., spikes	11	0	12
TIN-PLATES.*				STEEL.			
Per box.				Swed., in kegs (rolled) <td>14</td> <td>5</td> <td>0</td>	14	5	0
10 Charcoal, 1st qua.	1	7	0	Ditto, (hammered)	15	0	15
IX Ditto, 1st quality	1	13	0	Ditto, in faggots	16	0	0
IX Ditto, 2d quality	1	5	0	English, spring	17	0	23
IX Ditto, 2d quality	1	11	0	QUICKSILVER (p. bottle)			
IX Coke	1	2	0		6	17	0
IX Ditto	1	8	0	LEAD.			
Canada plates, p. ton	13	0	0	Per ton.			
Ditto, at works	12	10	0	English Pig, com.	19	10	0
				Ditto, L.B.	19	15	0
				Ditto, W.B.	21	10	0
				Ditto, sheet	20	5	0
				Ditto, red lead	20	15	0
				Ditto, white	27	0	30
				Ditto, patent sheet	22	10	0
				Spanish	18	10	15

\* At the works. Is. to 1s. 6d. per box less.

\* At the works, 1s. to 1s. 6d. per box less.

**REMARKS.**—The position of the Metal Market is still encouraging, and it seems now to be gradually assuming an appearance of renewed vitality, business being much more active, and orders coming in with much greater regularity. It is gratifying to find that the anticipation we expressed of a revival in business in the spring has not been disappointed, and that thus early in the season it has been manifested that a much better state of things has commenced, and that we may fairly conclude that the improvement now begun will go on until former periods of prosperity in trade are again reached; and it is to be hoped that as we advance to this time trade will be established upon a firmer and more secure basis than it was before the late commercial crisis came upon us, and that the lessons learned during that period will not be lost, but will be the means of preventing the recurrence of so great a calamity. The all-absorbing topic in the intelligence from America appears to be the impeachment of the President, which is now in course of proceedings. What may be the result of this step on the part of Congress is not very apparent, nor does it seem by any means certain that it will attain the object they have in view. It is much to be regretted that they have had recourse to this violent measure, which is so calculated to increase the already excited state of parties there, and to continue the unsettled condition of the country; and we fear may prove prejudicial to commerce also. The advices received from India during the week are of a more favourable character, and from them there appears every reason to believe business generally has much improved, and to expect that it will still go forward in the same direction.

**COPPER.**—The market has continued its improved condition, and a very fair amount of business has been done both here and in Liverpool. Prices are also a little firmer. Chili bars have been sold at 73L 10s. on the spot, and at 74L for arrival, and business has been done in Burra at 83L, and Wallaroo at 81L.

**IRON.**—In Staffordshire, the makers who have an established connection with the home markets are receiving orders somewhat more freely, but the demand has not yet become general. The great reduction in the production of pig-iron operates to strengthen the price of that article, and should any advance take place in the prices of finished iron, the producers of the latter who have to buy pigs will be in a worse position than ever. In Welsh, although there is more confidence evinced in the future of the trade than for some months past, actual transactions cannot be said to have made much advance. Iron freights are already in the market for Russia, and there is every probability that the requirements of that country for the coming season will prove in excess of what they were last year. The American purchases also are considerable. Bars are somewhat more enquired for. In Swedish iron the demand at present is only moderate. In Scotch pig-iron there has not been much business done during the week, but the tone of the market has been firm, and prices show an upward tendency. The last quotation from Glasgow was 52s. 11d. cash.

**LEAD.**—Business still continues active in this metal, and prices remain very firm; and it is by no means improbable that, should this state of things continue, an advance in prices will take place.

**TIN.**—The market for Straits has not made any advance during the week, and transactions have not been numerous, still prices are firm at 91L 10s. to 92L cash, at which sellers seem disposed to hold. SPELTER has remained very quiet, and the amount of business transacted has been only trifling; prices, however, continue at 20L 5s. to 20L 7s. 6d. for parcels on the spot.

**TIN-PLATES.**—The improvement which has taken place is fully maintained, and makers are now very firm in their prices.

**STEEL.**—The demand is only very limited.

**QUICKSILVER.**—Sales are not very frequent, but no alteration has occurred in the price.

The MINING SHARE MARKET has not been particularly active this week, and has been subjected to violent fluctuations in some of the prominent shares. The settlement of the fortnightly account has also occupied the attention of dealers for a day or two, and affected business to some extent. The standard for copper ores, we are glad to say, has further advanced 2L 13s., and the rise looks more gradual and permanent than the jerky rises we had occasion to remark upon some weeks ago. The principal shares dealt in this week have been Prince of Wales, Chontales, West Chiverton, Chiverton Moor, Wheel Mary Ann, Wheel Seton, Marke Valley, Great Vor, Carn Brea, Clifford Amalgamated, and a few others. Prince of Wales shares have fluctuated very much during the week. On Monday they opened 57s. to 59s.; and on Tuesday were knocked down, through, it is said, the closing of a very heavy account, to 51s.; on Wednesday they rose from 54s. to 56s.; on Thursday morning to 57s. 6d. buyers; on Friday opened from 56s. to 57s.; and left off at 56s. to 58s. The agents, after boring 5 feet south at the 65, determined to drive east, where the part of the lode commenced upon is increasing in size (now 2 feet wide), and is letting down the water from the 55, and with every appearance of a course of ore. The various points in operation at the mine are valued at 235L per fathom.

Carn Brea, 17L to 20L. Chontales Gold have been largely dealt in, and leave off 4 to 4L. Clifford Amalgamated, 6 to 6L; Drake Wells, 10s. to 12s. 6d.; East Basset, 9 to 11L; East Carn Brea, 14 to 2L. West Chiverton, 63 to 65L. At the last setting, March 7, the 110, east of Hawkes, was worth 70L per fathom; the 110 west, 70L to 80L; the 110, west of Burgess's, 60L; the 110 east, 60L; the 100 east of No. 3 winze, 50L; the 100 east, towards the 100, west of Burgess's, 50L; the 90, west of Batters's, 25L; the 90 west, on north part, at Bur-

gers's, 20L; the 80, west of Batters's, on north lode, 15L; and the 70, east of Batters's, on new north lode, 15L per fathom.

Wheel Mary Ann, 20 to 21, ex div. At the meeting the accounts showed a profit of 1057L 18s. 5d. on the quarter, and a dividend of 17s. 6d. per share (896L) was declared, leaving 1702L 14s. in hand. In addition to this, two parcels of ore (not credited) were sold on Feb. 21—No. 1, 60 tons, at 22L 17s. 6d. per ton; and No. 2, 46 tons, at 14L 12s. per ton. East Lovell, 8L to 9L; Frontino and Bolivia, 13s. to 15s.; Great Laxey, 17 to 18L. At the meeting a dividend of 10s. per share was declared. Grambler and St. Aubyn, 5 to 6L. At the meeting a call of 1L per share was made. The accounts showed a balance against the adventurers of 685L 15s. 5d., and a loss on two months of 367L 3s. Great Retallack, 2L to 3L; Great South Tolgus, 17s. 6d. to 20s.; Great Wheel Vor, 18L to 19L; Herodsfoot, 37 to 39L; Marke Valley, 6L to 6L; North Chiverton, 4 to 4L; North Crofty, 2L to 2L; North Downs, 21s. to 23s.; East Caradon, 3L to 4L. The ends on Child's lode are worth 32L per fm. Chiverton Moors have advanced to 6L 7. The prospects of the mine are good, and in about three weeks the lode will be cut in the 75. At present the returns of lead about meet the costs, and if a good lode is cut in the 75 the mine will be in a position to yield profits.

North Treskerby, 26s. to 28s.; Providence Mines, 25 to 27L; South Frances, 20 to 22L; Tincroft, 13L to 14L. West Caradon, 8 to 9L. At the meeting a call of 1L 10s. per share was made. West Frances, 25 to 35L; West Seton, 190 to 200L; Wheel Basset, 65 to 70L; Wheel Chiverton, 2L to 3L; Wheel Grenville, 27s. to 29s.; Wheel Seton, 85 to 90L; Wheel Uny, 30s. to 32s. North Roskear, 8L to 9L. At the meeting the accounts showed a balance of 1045L 3s. against the adventurers, and a call of 1L 10s. per share was made. The report states that Pearce's shaft has been completed for the reception of pitwork to a depth of 230 fathoms. The engine is almost ready to work, but it will take about three weeks to have everything complete at surface and underground for starting the engine, and commencing to sink Pearce's shaft; when this is done, the agents state they will at once begin to send up copper ore, and have every reason to believe, from the value of the lode so far as they have been able to work on it hitherto, they will have copper ore in sufficient quantities to repay the shareholders for the outlay which has been made, and add a permanent source of prosperity to the concern.

The business in the Mining Market on the Stock Exchange has been very limited, but, notwithstanding, prices have been fully maintained. The following are the principal quotations:—St. John del Rey, 17 to 18L; Don Pedro, 2L to 2L prem.; Anglo-Brazilian, 1L dis. to par; Anglo-Italian, par to 1L prem.; Pestarena, 1L to 1L dis.; the directors have just been advised of a remittance of 788 ozs. of gold, which, for the time of year, is considered satisfactory. Port Phillip, 1L to 1L; Rossa Grande, 1L dis. to par; Anglo-Argentine, 1L to 1L prem.; English and Australian Copper, 11-16ths to 13-16ths, ex div., and enquired for, in consequence of the improved state of the copper market. Kadunda, 1L to 1L; Scottish Australian, 1L to 1L; Yudanamutana, 1L to 1L. Chontales shares have risen to 1L dis. There has been a considerable amount of business transacted in British Mines, and at better prices, consequent chiefly on the improved appearance of the markets for copper, tin, and lead. Wheel Seton, Devon Great Consols, and South Caradon shares are all in demand, and are quoted at an advance. West Chiverton shares have risen to 64, 65. The bottom level, both east and west, has improved, and the reserves are being increased monthly to a large extent. The mine has been carefully examined by an independent authority, and the agents' reports are more than confirmed. Chiverton, 38L: the nature of the ground eastward is very congenial for lead, and an important change is looked for. Chiverton Moor, 6L to 6L; mine favourably reported on. Prince of Wales shares have been largely dealt in, and after falling from 51s. to 52s., subsequently rallied from 56s. to 58s. Great Vor, 18L to 19L; Great Laxey, 17L to 17L; North Crofty, 2L to 3L. North Chiverton, 4 to 4L; the lode will be cut 10 fathoms below any former workings in the course of two or three weeks. North Wales mines are well supported. Glas Alun, 7s. to 7s. 3d. (6s. paid); Maes-y-Safn, 28 to 29L; Minera, 185 to 195L. Westminster Mine has improved generally in the slopes during the week. At Ebury the lode in driving is worth upwards of 1 ton to the fathom.

**IRISH MINE SHARE MARKET.**—This important branch of our Stock Exchange (Dublin) has been very buoyant since our last report, when we had to record an improved demand for Connoree shares (17L pd.), at 3s. 9d.; for those of the Mining Company of Ireland (7L pd.), at 18L 10s.; buyers; Wicklow Copper Mining Company (2L 10s. pd.), at 16L 10s.; and Cape Copper Mining Company (7L pd.), at 9L, ex dividend. Last week closed with a strong tendency to improvement, and this week gradually realised that expectation. Mining Company of Ireland shares went up to 19L 10s., but sales for realisation brought them down a slight figure of 2s. 6d., they leaving off, however, in demand, at 19L 7s. 6d. Wicklow Copper followed, for the same reason, the precedent set by the above, and receded to 16L 7s. 6d., but left off in great request, at the trifling reduction of 1/4th. Connoree shares, continue to command attention, and have been done between 4s. 3d. and 4s., with a firm appearance. Cape Copper shares have changed hands at an advance to 9L 17s. 6d., and leave off strong.

The Connoree Mining Company held an adjourned special meeting of shareholders on Saturday last, for the purpose of receiving the report from the recently-appointed committee to investigate the accounts and financial condition of the concern, and consisting of Messrs. J. R. Greer (Chairman), Patrick Cogan, John Kennedy, Wm. Lewis, Edward Macready, and J. S. Mulvany. The meeting of the shareholders was attended unusually numerously, and presided over by Mr. Edward Potterell. The committee's report discloses such extraordinary dereliction of duty and flagrant abuse of confidence on the part of some of the directors and officials of the company that we consider ourselves bound to give extensive extracts, in order to furnish a warning to other companies, the shareholders of which may be disposed to leave their affairs in the hands of those in whom they placed their trust in the outset of their undertakings. From further comments we abstain, in order to avoid all chance of being suspected of the slightest prejudice for or against any of the delinquents, the report of the committee speaking amply for itself, though the limits of our space compel us to omit many details, and to abbreviate much strongly bearing on the conclusion the committee had to arrive at.

The report of the committee, read by Mr. Lewis to the meeting, contains, *inter alia*, the following:—

We laboured under considerable difficulty in arriving at the following facts, for we found the affairs of the company in a sad and lamentable state as regards the books, there being no cash book or petty cash book, no bills payable book, and in the book for bills receivable no entry is made since June, 1867. We find that Mr. Dedrickson was appointed secretary and book-keeper on June 9, 1863, at a salary of 100L per annum, to commence his duties upon entering into satisfactory securities, which have never been entered into. We have checked the cost-sheets from Sept. 5, 1863, to December, 1867. We have, unfortunately, to call attention to the extensive and open fraud in the cost-sheets committed by your late secretary (Mr. Dedrickson), and the flagrant neglect of your board of directors and your auditors. Of 52 cash-sheets examined 38 are current copies of the cash-book, and 14 are tampered with in the most self-evident manner in the alteration of amounts, &c. From the half-year, commencing on June 1, 1864, to December 31, 1867, the amount of money applied for to the board for the mine was 26,657L 11s. 7d. The cost-sheets, as altered, amount to 28,305L 4s. 4d., showing an amount of fraud in these sheets alone of 1647L 12s. 9d. Account No. 1 shows a sum of 23,755L 13s. paid to Dedrickson by cheques to his order; and according to the mine cost-books he only paid to the mine 19,173L 13s., leaving 4582L 5s. 6d. unaccounted for. Account No. 2 shows that Dedrickson received, on account of salary, Christmas boxes, &c., 839L 1s. 5d., and that his salary amounted only to 429L, leaving 419L to account for. Account No. 3 contains the statement of the special cheques, drawn in favour of Dedrickson, to pay sundry accounts, including carriage of ore on the Dublin, Wicklow, and Wexford Railway, amounting to 5456L 12s. 10d. We have no way of coming to a conclusion how this sum was disbursed. We find 118L 17s. 6d. received by Dedrickson for transfer fees unaccounted for, and that he extracted from the iron safe at the mines 88L 12s. 3d., of which 43L 17s. 6d. belonged to the provident fund. All amounts payable at the mines are properly accounted for, and receipts produced. But all amounts payable by or through the secretary included in the cost-sheets appear to be outstanding, as receipts could not be got. No possible trace can be had, nor can the amounts be reconciled in any way.

Why the board did not continue to conduct the payments as they had previous to their late secretary's appointment, is for them to say. The accounts with merchants and manufacturers are also in a deplorably sad state. We find no bills of lading forthcoming, or any duplicate of the ores shipped at Kingstown since June, 1865; and what became of the vast amount which left the mines, amounting to many thousands of tons, we cannot in any way check. Mr. Mackie, one of the directors, stated at the meeting that he knew nothing of the way the balance-sheets were made out. We have found the balance-sheets drafted, and calculated, and made out in his own handwriting. We find, in many instances, cheques were drawn in favour of the secretary, without any order or minute of







### Notices to Correspondents.

\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

**THE COST-BOOK SYSTEM.**—Will you kindly give insertion to the following case in the Journal, in the hope that some one of your readers may be enabled to give a decided opinion upon it, and, if so, whether any similar case has been legally decided, when, and where?—*VERITAS.*

**Case.**—A sale of shares in a mine worked upon the Cost-book Principle took place some months ago. The vendor completed the transfer on a form bearing a notice on the margin that unless the shares were registered by the buyer within thirty days he (the vendor) would not be accountable for them. The buyer of the shares not having registered according to such notice, can the seller be hereafter called upon to supply the shares, or is he legally relieved from all future liability to deliver them?

**SOUTH WALES.**—Will some correspondent residing in this locality kindly furnish some information respecting the position and prospects of the Neath Merthyr Colliery Company—the South Resolven and Cefn Mawr Colliery Company, formed some three years since? The reports from the local agents were very sanguine as to satisfactory results, the daily output being estimated at 200 tons. Holding, with friends, a large interest, I shall feel thankful for some reliable particulars.—*VIATOR.*

**LEAD SMELTING.**—In the Journal of Feb. 29 there is a letter from Mr. G. Pengilly on Lead Smelting, and another this week from "A Mining Engineer" on the same subject. I shall be obliged to either of these gentlemen if they can communicate the particulars of Foster's process, or favour me with the address of Mr. Foster, as I should like to meet with some practical person to erect such a furnace.—*F. W. P.*

**PURCHASE OF MINE SHARES.**—"D. C." (Nottingham).—Shares are usually purchased "all calls paid" to date of purchase, and as no share with calls due upon it can be transferred, it is probable that "D. C." will find that he is not a shareholder, in consequence of the transfer never having been registered.

## THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, MARCH 14, 1868.

### OUR TRADE.

For some time past the expectancy of the commercial world has been similar to that of the Prophet's servant, who was bidden by his master, "Go up now, and look towards the sea." We are told that he went up and looked, and said, "There is nothing." His master, we are further informed, commanded him, "Go again seven times." Then we learn "It came to pass at the seventh time that he said, 'Behold there ariseth a little cloud out of the sea like a man's hand.' We have all been looking for this 'little cloud' of betokening prosperity for at least 20 months past. Month after month we have ascended our commercial Carmel, and have looked out over the Mediterranean of the great business world; but, like the Seer's servant, have come down without being able to discover the much-coveted indication of the return of those fruitifying showers by which our various industrial fields are made to yield their wonted increase. At length, however, the anxiously longed for 'little cloud' is believed to have been despatched. True, it is not at present bigger than 'a man's hand,' but therein our confidence. For as the much-desidered rain showers of the East usually begin with the appearance of a small cloud on the sea's horizon, so we have the greater confidence in the present indications, because their naturalness reminds us of Nature's progress.

The trade correspondence of the Journal has furnished growing indications of this state of things; and the facts obtained from this source have been rendered the more encouraging by the information upon our trade and commerce which we obtain periodically from one of the departments of Government. The British export trade of 1867, though showing in the price of the goods sent out a diminution of 7,733,565*l.*, really shows an improvement to about that extent, by reason of the fact that we have had to pay much less in 1867 than in 1866 for the raw material which supplies our first national industry. It is true that the quantity of cotton imported in 1867 decreased from 12,295,000 to 11,272,000 cwt., but while the decrease in quantity was only about 8 per cent., the decrease in cost was about 32 per cent.

In other words, the raw cotton which we used in 1867 cost us about 18,000,000*l.*, less than that we consumed in 1866. This difference shows that our trade in 1867 represented an increase upon 1866 of about 7,000,000*l.*, rather than a decrease of 8,000,000*l.* In respect of those industries in which the readers of the Journal may be fairly assumed to be most interested, it is satisfactory to notice that the worth of the coal and culm sent away from our collieries in 1867 was nearly 300,000*l.* more than that exported in 1866. The exact figures are for 1866, 5,102,805*l.*; and for 1867, 5,400,353*l.* In iron there is also an increase. It is not much, still it is an increase, and an increase nearly as large as 1866 on 1865.

The information to hand from the same governmental source, relating to this year, indicates a steady increase in the improvement. Coal and culm advanced, in January this year, more than 55,000*l.* upon January of last year. The figures are—January, 1867, 301,014*l.*; and January, 1868, 356,121*l.* The iron exports for this year are even more satisfactory. They show an increase of 171,143*l.* in January this year upon January last year. The precise values are—1867, 628,150*l.*; 1868, 799,293*l.* The year's trade in copper and brass also is encouraging. It shows an increase of 475,279*l.* in the 12 months' trade. The values are—in 1866, 2,797,696*l.*; in 1867, 3,272,975*l.* In January, this year, the increase was 50,000*l.* upon the month's trade. The figures were—1866, 185,000*l.*; 1867, 235,000*l.*

There are drawbacks, however, in reference alike to articles, to markets, and to producing districts, which combine to make the actual state of things appear less satisfactory, universally, than these figures taken *per se* would imply. In respect of articles, steel may be cited. It fell off upon the year nearly 70,000*l.* The figures were, in 1866, 1,124,917*l.*; in 1867, 1,063,954*l.* The decrease in this metal, in January this year, was upwards of 49,000*l.* upon the corresponding month last year. The figures are in 1867, 92,105*l.*; 1868, 43,068*l.* In respect of markets, the United States must be quoted. It is true that that country took railroad iron worth 385,000*l.* more in 1867 than in 1866, but there was a heavy decrease in the castings sent out, and wrought-iron fell from 228,000*l.* to 133,000*l.*, and the steel which she took was a great diminution upon the previous year. The same features continue in January this year. In that month the total increased value of the iron she received from us, as compared with that we sent in January, 1867, was 6653*l.* But that increase is due exclusively to the iron sent out for railroad purposes, of which she took 120,441*l.*, against 66,151*l.* in January, 1867. It will thus be seen that the market in which the ironmasters of the United Kingdom look to dispose of a large proportion of their output is, in those departments which have reference to the requirements on account of the general productive industries of the States, very perceptibly reducing its demand. For instance, the wrought sent out in January this year was not much more than a fourth of that sent to the United States in January last year; and the immense falling off in steel in the month shown above was due almost exclusively to the United States, to which country we sent in January this year only 21,000*l.* worth, against 72,000*l.* in the same month last year. We may add that there was a considerable decrease in cutlery and general hardware in January, and that this also is due chiefly to the lessened demand in the United States. Relative to producing districts, we cite South Staffordshire. Thence, as was observed last week, we receive the faintest possible indication of returning prosperity.

It will thus be seen that, whilst it may be correctly stated that an improvement has begun, yet that we must rejoice with trembling. The ironmasters are accustomed to look to an improvement in the cotton trade as the 'little cloud.' It was first seen there, and the general bearing of the reports of our correspondents, and of the national statistics, show that it is spreading. It is to be lamented that any impediment to the return of prosperity should be obtruded by the men. Their present attitude in several quarters is most unsatisfactory, and in the face of certain political changes, accompanied with a better trade, compel us to recall the very old Eastern warning of—"If these things be done in the green tree, what will be done in the dry." We trust that the moulders of Scotland, the pud-

dlers of Shropshire, and those who are resisting the Earl of DUDLEY's agent in the bringing about of certain very desirable changes, together with the tens of thousands of colliers who are out in Wales and about St. Helen's, will see it to their interest to accept the terms by which their masters hope to encourage the re-appearance of that prosperity in which the operatives are so vastly interested, and of which it is believed the advent has dawned.

### NORTHAMPTONSHIRE—ITS IRONSTONE AND ITS IRON.

The rapid progress which has been made during the last 12 or 14 years in the development of the vast deposits of ironstone to be found in nearly all parts of the county of Northampton, and which so far has not been known and appreciated, even by the trade, to the extent which they deserve, a brief notice from a personal visit made during the last few days in the districts which will be alluded to may be the means of giving some idea of the present condition and future prospects of the iron and ore trades in them. That more important branches of industry are fast assuming proportions of a colossal character, so great, so far as the county named is concerned, as could scarcely have been anticipated not very long since by the greatest enthusiast, admits of no doubt. We believe it was about the year 1851 when Mr. BLACKWELL, of Dudley, had his attention drawn to some specimens of ironstone sent from Northamptonshire, he being then engaged in preparing a series of specimens for the Exhibition. The matter was at the same time taken up by Mr. W. BUTLIN, of Northampton, who may be said to be the author and founder of the iron trade in Northamptonshire, and who after surmounting endless difficulties overcame them, and at last had the satisfaction of turning out at a small furnace the first piece of iron made from native ore. Still the stone was not patronised, the "rhubarb" and "monkey dirt," as it was termed, being considered of little value, notwithstanding the fact that the resources of South Staffordshire, which at one time was amongst the largest producers, had gradually fallen back from exhaustion, until it became only the fifth or sixth in importance, and was seeking for supplies from some other districts. Indeed, it is not very many years since the ironmasters of the county depended for their main supplies of ironstone on South Wales, Staffordshire, Shropshire, the Forest of Dean, the West Riding of Yorkshire, and Scotland. Matters, however, were greatly changed by the discovery of immense deposits of valuable ironstone on the Cleveland Hills, in the North Riding of Yorkshire, and which now stands as the largest iron-producing district in the kingdom. No greater proof of the extent of that valuable field can be given than in the fact that where little more than 25 years ago some four or five isolated houses were to be found, now lies the important town of Middlesbrough, with a population of from 25,000 to 30,000 inhabitants. Since then the next great field of ironstone discovered was that of Northamptonshire, which in the year 1860 produced 95,664 tons, which was increased in 1864 to 335,787 tons; and, as will be seen by the following table of the products of the principal iron-producing districts for 1866, has still increased:—

Cleveland district .....	Tons 2,800,060	South Wales .....	Tons 369,961
Scotland .....	1,587,000	West Riding of Yorkshire .....	357,000
Cumberland .....	838,047	Derbyshire .....	329,500
Lancashire .....	685,726	Shropshire .....	285,907
North Staffordshire .....	612,243	Lincolnshire .....	175,720
South Staffordshire .....	599,000	Gloucestershire .....	162,129
Northamptonshire .....	476,981	Northumberland and Durham .....	105,000

There are several other districts which produce ironstone, from Wiltshire, which has credit, after Northumberland, &c., for 75,645 tons, down to Monmouthshire, with 60 tons only. It will thus be seen that Northamptonshire takes the seventh place on the list, surpassing many of the old producing localities, and there is but little doubt that in the course of a very few years it will stand much higher, and even compete for the pride of place with Cumberland. It may be stated that in Northampton nearly the whole of the stone is taken from just below the surface, the same as in a quarry, and that in nearly all parts of it the ore is discernible, whilst the county town itself is nearly, if not altogether built on it. At Duston, a short two miles from Northampton, Mr. PELL and others are getting the stone on the land belonging to Lady PALMERSTON, and the glebe in the occupancy of the Rev. P. BANTON, in which there is plenty of material. Two or three miles further on, close to the Blisworth Station of the London and North-Western Railway, and at the adjoining parish of Gayton, there is the greatest activity to be seen, large quantities of ore being raised by BEVAN and Co., Mr. PELL, and Mr. WELDON. In all parts of the district, indeed, a very heavy tonnage is obtained, and it is no unusual thing to see some 50 or 60 wagons most mornings leaving the Blisworth Station for Staffordshire and Wales. At one of the pits worked by BEVAN and Co., which lies close to the canal, the ore is put in trucks on to a boat, and then taken to the railway. Throughout the whole of the districts just named there appears to be scarcely any limit to the quantity of ironstone which can be raised; and even in the vicinity of Towcester, where no trials have as yet been made, there are strong indications of the presence of iron, in some instances the stones for mending the roads being strongly impregnated with it.

Leaving, however, those picturesque spots, and taking a northerly direction, a very few miles brings us to the Billing-road station, on the Peterborough line, near to which is Cogenhoe, an estate belonging to Mr. WELDON, and which, containing ironstone, is about to be opened out. A few miles further on the vast fields at Wellingborough, running on by way of Finedon for a distance of about 16 miles on the Midland Railway, are reached. On each side of the line are extensive deposits of ore, and which, in all probability will not be worked out for generations. The Glendon Company are working some of the stone raised, which is principally found on the estate of Mr. W. M. DOLBEY, whilst at the adjoining village of Addington, as well as at others, there is evidently plenty of stone. Mr. COLSON, one of the oldest farmers in the district, having informed us that no inconsiderable quantities are brought up with the plough, whilst in sinking to a short depth for drainage or other purposes the same is found to be the case. Between the Thrapstone and Twywell stations, the extensive estate of General ARBUTHNOT is about to be fully developed, as it contains some very good stone, some of the finest qualities of which lie rather deep in comparison with others. On the adjoining properties of Sir G. ROBINSON and the Hon. Mr. STOPFORD there are also deposits of more or less extent, as there is on the estate of the new Chancellor of the Exchequer, the Right Hon. G. W. HUNT, in the same neighbourhood, all of which will be worked.

With regard to the quality of the iron made from Northamptonshire stone, we can state that it has been unduly underrated. This we can say from what came under our own observation whilst visiting the extensive works of the Messrs. BUTLIN, at Wellingborough, which are the largest in the county, and for various reasons the most important. Mr. W. BUTLIN, a thoroughly-practical man, and by profession an engineer, has devoted a great deal of his time to the most profitable mode of smelting, and the means of procuring the very best quality of iron. He has well studied the chemical conditions of his own and other ironstones to ascertain their earthy impurities, so as to apportion their fluxes for the purpose of freeing the iron from them. Therefore, in his own machinery, and in the erection of his furnaces, he has made considerable improvements, whilst in several other branches there are various means adopted for the economising of labour, which are worthy of special notice. Commencing with the ironstone used by Messrs. BUTLIN, we may say that the fields are quite close to the Midland and London and North-Western Railways, on to both of which there are several sidings. The stone varies in thickness up to 15 or 16 ft., and gives from 10,000 to 12,000 tons per acre, and in some instances considerably more. The whole of the ore is worked from the surface, the same as in a quarry, and some of the fields were remarkable for the richness of the stone, for one section to which our attention was drawn must have contained considerably more than 50 per cent. of iron. In another there would be about 15 per cent. of lime, so that not a great deal more would be required for smelting.

The quantity of stone raised by the firm is by far the largest in the county, as in addition to the supplying of their own furnaces, three of which are at times in blast, nearly 2500 tons are being sent weekly into Derbyshire and Yorkshire. For the purposes of exportation the means are in every way excellent, so that a truck of coal is unloaded very quickly, whilst only a couple of minutes are required to have it filled with ironstone and moved on towards the railway siding.

Perhaps one of the most interesting processes connected with the raising of the ironstone at Wellingborough is that as soon as it is got the land is made good again, and fit for agricultural purposes. In one tract of ground, which appeared in an admirable state of cultivation, we were informed that before it was in its present condition it had yielded about 200,000 tons of ironstone, and yet that it had been disturbed for such a purpose no one could for a moment have supposed.

With regard to the smelting operations of Messrs. BUTLIN, it may be stated that, in addition to the two furnaces at East End, at the new works there is one furnace in blast, and another nearly ready, but the grounds are laid out for four, whilst large workshops and sheds are being constructed. Most of the machinery, as before stated, is of improved construction, and manufactured by Mr. W. BUTLIN. The furnace casings, instead of being rivetted, as is usual, are put together by bolts, so that the fastenings are more secure, and easier joined together and taken to pieces, effecting a saving in labour which more than pays the extra cost of the bolts. The boilers are 30 feet long, 6 feet in diameter, the tubes being 2 ft. 2 in. The blast-engine for one furnace is driven with 28 cwt. of slack per day. The great economy gained by the boilers is attributed to the setting, which is a wheel shaft, the flues of which are increased in size as they approach the shaft, with a stack three and a half times the length of the boiler. The combustion is, therefore, perfect, without the loss of temperature in the shaft, which is from 380° to 400° Fahr., and there is little or no smoke made. The engines, which are of 60-horse power, were made by Mr. BUTLIN, as was all the machinery in use, with the exception of a small locomotive engine, made by HUDSWELL & CLARKE, of Leeds.

With regard to the production of a really first-class iron, Mr. W. BUTLIN, who has well studied the matter, and arrived at certain conclusions, which are well worthy of consideration, says the results of his experiments are that the Northamptonshire ironstone has many advantages over several others. It is got on the surface, consequently can be obtained cheap, and is comparatively free from phosphorus, sulphur, or any other injurious ingredient, and only requires skilful treatment in the furnace to give a good yield. The ore is exceedingly friable—so much so, that it could be melted in an ordinary iron ladle. From various causes, however, it is considered that the ore had not been properly treated by the foreign ironmasters who had used it, so that the same results were not obtained when the ore was used in fusion with others, as at the local works. This will be borne out by the following statement of what was done at one of the furnaces at Wellingborough for the seven days prior to our visit:—

Coal in furnace .....	271 l.	6 c. 2 q.	
Coal in stove and boilers (slack) .....	78	10 0	
Coke .....	25	13 0	
Ironstone .....	513	0 0	
Limestone .....	181	10 0	
Iron made .....	194	10 0	
To per ton of iron made—			
Coal .....	Tons 1.79	Ironstone .....	Tons 2.63
Coke .....	0.13	Limestone .....	0.90
Actual percentage in iron .....			37.91

This was lower than usual, the stone by no means being the best that could be obtained, but rather the reverse; still a yield equal to something like 38 per cent. under the circumstances—the ore being used in its raw state—shows that the ore is far superior to what is generally supposed. The stone is friable and tender, and so exceedingly fusible that makers at a distance calcine it to mix with their own ore, which requires a much higher temperature. It is, therefore, obvious that the Northamptonshire ore being very fusible, and not being mixed in proper proportions when used with the foreign material, the results are not so satisfactory as they would otherwise be. Hence the ore is not appreciated to that extent it would be, owing to the want of proper manipulation and the adjusting of the quantities. To obtain a really first-class iron, Mr. BUTLIN recommends a mixture of 50 per cent. of Northamptonshire, 25 per cent. of Lincolnshire, and 25 per cent. of a mild clay ore, with a soft blast, (say) 2 lbs. pressure to the square inch, and the temperature about from 450 to 500. By such a mixture the temperature would be greatly lowered, and a considerable saving in fuel effected, whilst an improved quality of iron would be obtained. It is apparent that, when the body of the charge contains a large proportion of refractory ore, (say) three-fourths, the temperature of the furnace must be high, however well it is fluxed; hence, under such circumstances, it is far from advisable to use such a large proportion of foreign ore. On the other hand, if the proportions are as previously stated, the body of the charge being Northamptonshire ore, which is easily fused, and when the clay and calcareous ores are used as fluxes, the temperature of the whole is reduced, thus making the smelting operations more profitable.

In Staffordshire the pig-iron of Wellingborough has been admitted to be first-class for foundry purposes, as well as for sheets and plates, and, according to Mr. HIPKINS, of the Victoria Works, West Bromwich, is one of the most useful irons in the three kingdoms. Of it we may also say that Mr. BUTLIN is sanguine that it might advantageously be introduced into the manufacture of heavy armour-plates. By selecting the ores which are most silicious, and smelting them properly, a class of pig-iron suitable for the outer face or skin of the plate would be obtained; and then by having ore as free as possible from silica, a soft and suitable pig would be produced. Thus, with a hard outside, there would be an inside sufficiently soft to act as a cushion in receiving a blow from a heavy missile. In these days, when everything relating to armour-plates is deemed of importance, the suggestion named may not be considered out of place, or unworthy of consideration, in noticing an iron-making district.

In concluding the notes of a visit to the iron districts of Northamptonshire, it is worthy of observation that several years before the discovery of ironstone there was a strong feeling that coal existed in the neighbourhood of Northampton, and was sunk for there to a depth of more than 300 yards. It is needless to say it was not found, but why the ironstone should have escaped the observation of those who were seeking for the coal is not very apparent, unless, indeed, that it must have been entirely unknown but for its use for road-mending purposes.

### THE COAL FIELDS OF YORKSHIRE.

Mr. R. CARTER, C.E., of the Cliffe, near Barnsley, and of Harrogate, delivered a highly interesting lecture to the members of the Halifax Literary and Philosophical Society on the Geology of Yorkshire, more especially as regarded the coal measures and the carboniferous system generally. The lecture, which was illustrated by numerous diagrams and maps, was of a thoroughly practical character, and we subjoin the principal features as of particular interest to the readers of the *Mining Journal*.

After a few preliminary remarks, Mr. CARTER said in attempting to illustrate the coal fields of Yorkshire it would be requisite to extend his observations beyond the area itself, and consider the coal-bearing strata in connection with the other rocks which combine with them to make up the great carboniferous system, which system obtained in Yorkshire a finer development, perhaps, than can be met with in any known part of the globe. By the carboniferous system he meant the entire group of rocks which has the mountain limestone as its base, the overlying rocks and shale of the millstone grit as its intermediate member, and the great mass of coal strata as the upper or later deposits of the series. Now, whilst the lower portion of the great carboniferous system had been so fully treated by Prof. PHILLIPS, ample materials existed for the evening's discourse in the upper strata of that system, comprising, as they do, the entire deposits of the great Yorkshire coal field. To this selection some little originality will be attached, for, notwithstanding its vast commercial importance, few districts had so nearly escaped geological illustration as that to which he proposed to direct attention. If, then, he stated, we take a vertical section of the strata which go to form the aggregate mass of the earth's crust, we find that in the varied structure of our own country nearly every important member of that vast group has its representative, and this, too, under circumstances which admit of their individual and easy examination and study in one part of the country or another. A section of the strata exhibited upon a line drawn across the country from Sedberg, in the west, to Bridlington Bay in the east, present us with a development which for the grandeur and perfection of its details could scarcely be equalled in any country. In their successive order and superposition we should find the representatives (with one grand exception only) of all the known strata, from the slate rocks of the



Silurian and Cambrian formations, to the latest deposits of the Tertiary, and almost historic times. The exception which this magnificent spectacle exposed became the object of research for the evening, and comprehended the entire mass of coal-bearing strata, of which some slight conception might be formed when it was remarked that its aggregate thickness could not be stated at much less than 3000 ft. Apart from its importance as the great magazine of our mineral store, in iron and coal more particularly, the omission of such a mass of strata is, nevertheless, remarkable, and its "whereabouts" or annihilation would form the subject of enquiry and investigation at a future stage.

The geological structure of Yorkshire, and more immediately of the West Riding, should be regarded as having for its sub-base and primary foundation the west stratum of limestone, which marks in this district the commencement of the carboniferous era, and commonly known as the "Great Scar," or mountain limestone, the presence of which, and its associated strata of calcareous shale and rock might be traced in one continuous chain, or mountain barrier, along the entire western boundary of the country, from Westmoreland in the north, to Derbyshire in the south. The primary deposition in the grand laboratory of Nature of this vast limestone formation, succeeded immediately to one of those periods of disruption and upheaval by which the crust of the earth has at several different times been broken up and redistributed. It was, therefore, said to be unconformable to the underlying slate and other rocks which rear their ancient peaks, and give grandeur to the neighbouring scenery of Cumberland and Westmoreland. The limestone was, nevertheless, conformable to, as it formed the base of that magnificent system of carboniferous deposits, while comprising the limestone and millstone grit, had its final termination in the coal-bearing group already referred to. Immediately succeeding the completed deposit of the coal formation, we have the next great epoch of upheaval and dislocation, which in its turn was followed by deposits of the magnesian limestone and New Red Sandstone; the Oolite, and other formation, to the base of the chalk. Then, again, an epoch of disturbance and upheaval occurred, followed by the subsequent deposition of the very interesting series of rocks known as the chalk formation. In this order of successive deposition was comprehended a mass of strata, the aggregate thickness of which might be assumed at something like 10,000 feet. In this calculation, however, he had taken the coal-bearing strata at 3000 feet only, but this formation, like others, was represented by a much greater thickness in some portions of the country than can be accorded to them in Yorkshire. In South Wales, for instance, the coal formation alone was estimated at over 10,000 ft. of thickness. In the neighbouring county of Lancashire the kindred strata were estimated at much higher dimensions than had been assumed for our own county, the coal measures alone being taken at about 7000 feet, millstone grit 3500 feet, and the limestone shale, or Yoredale rocks, at 2000 feet, making a total of 12,500 feet, exclusive of the Permian and Triassic, Oolite, or Tertiary formations, above the carboniferous system; the former of which in Lancashire and Cheshire, where the Oolite and superior rocks are unknown, were computed at over 5000 feet of thickness. Taking the section of Yorkshire geology as thus sketched out, its general details displayed a treasury of the past history of time which, as already observed, could hardly be equalled in any country. We might fall short in occasional strata of the vast development which is to be found in other places, but, as a whole, we had a combination of systems, made up of the most interesting portions of the earth's crust, and in the fossilised remains of vegetable and organic life which those systems contained we might read the bygone history of the globe with a grandeur and interest which no known portion of the earth could supply. Passing on to granite and other primary deposits, which were well illustrated, the lecturer proceeded to say that, in contrast with the characteristic rudeness of the Old Red, the Great Scar limestone seemed to tell of a period of great repose, when the area it now spreads over was submerged, and the coralline structure was effected in the undisturbed bed of a bright translucent sea. The currents, violent and agitated, which had borne along the gravel and mud of the Old Red, were now suspended or changed, and in the texture of the limestone we scarcely perceived the trace of earthy particles, the entire mass being due to the labour and decay of coralline life. Gradually, however, the scene was changed, and in the alternations of shale and rock, of which the overlying "Yoredale strata" is composed, we recognised the varying conditions which affected the then relations of sea and land. Through the vast period of the Millstone Grit these agencies were continued, its alternating sandstones and shales testifying to the same varieties of change and condition, when we again arrived at a period of more apparent repose, during the continuance of which the grand treasury of the coal strata was deposited. The predominance of finely laminated shale, which entered so largely into the structure of the coal-bearing strata, afforded general evidence of that greater repose, which left to the milder influences of atmospheric or aqueous change the production of those materials of which the sedimentary deposits were composed; but there are other testimonies to which a passing glance might be directed. Taking our own coal fields as the guide, a thickness of about 700 or 800 feet of varying shales had been deposited before any considerable stratum of sandstone rock was formed. The rock was then formed which we now identify as the Flagstone of Elland Edge and other places, where its qualities in a commercial aspect have been long known and appreciated. Its peculiarity of finely granulated texture, and evenness of lamination, affords another proof, when compared with the coarser and more irregular structure of the Millstone Grit, of the altered condition and circumstances which marked the two eras. Besides the Flag, there are several examples of sandstone interstratified with the shales of the coal measure, but they all combined a proportion of argillaceous or earthy matter, which distinguished them from the more arenaceous texture of the Flag and Millstone Grit, and allied them far more closely to the shaly structure of the series of which they formed a part. There were, however, interlaminated with this group of strata those numerous beds and seams of coal on which speculation was not quite so easy. Their position and presence might be claimed in confirmation of the comparative repose which had just been propounded. They tell, however, of fertility and luxuriance, which prompted the most astonished admiration, and seemed to carry us backward to a period when a far different and milder climate existed, and when the conditions which favoured the development of vegetable life were far greater than any now known. The vegetable origin of coal seemed sufficiently demonstrated, but the fact of its being accumulated by successive growths on the spot, or whether the vegetable matter had been transported from a distance, like the earthy substances with which we now find it interstratified, was open to much speculation. Scientific opinions had inclined to each theory. In favour of vegetation on the spot there was the coincidence, very general, but not universal, of coal seams immediately succeeding to a clayey stratum, known as seat-earth, which furnished in some of its varieties the very valuable beds used for fire-clay. In this stratum the coal plants were supposed to have flourished and grown. Very little evidence of this kind can now be traced, although one example seemed to be pretty well attested, when the stems of fossil plants were found apparently *in situ*, the trunks erect, and widening at the base, as if they had rooted and grown in the now fire-clay seat. If this example were really authentic, it is very surprising that no repetition had been met with of the same or analogous indications; and if relied on to demonstrate the fact of local vegetation, did it not seem to establish the seat-earth as a necessity of a coal seam? If so, the theory failed, inasmuch as coal frequently existed in its absence; and, in truth, examples are not wanting of coal being worked with sandstone alike for floor and roof. The theory of transportation by currents, which had floated the vegetable substance from distant places to the spot on which they have since been carbonised, was more easy of realisation, and had some support in the fact that all the mud and gravelly drift which had made up the substance of the associated shales and sandstones had contained at all times a considerable admixture of the very species of vegetable production which, in its more independent state of separation, had gone to form the substance of successive beds of coal.

The general topography of the Yorkshire Coal Field was well known, extending from the valley of the Aire, southward, to the bordering counties of Derbyshire and Nottinghamshire, a distance of about 34 miles; the transverse width from the outcrop of the underlying millstone grit, to the overlying strata of magnesian limestone, being about 19 miles, giving a superficial area of about 646 square miles. About 30 beds of coal had been recognised, of thickness varying from 18 in. to 9 ft., the aggregate being about 86 ft. of solid coal. Many thinner seams existed, but they are generally below that proportion which would enable them to be profitably worked. The lecturer then expatiated at considerable length upon the wasteful effects of denudation, and the modifications which had been produced by this and other phenomena upon the surface, more clearly indicated by numerous maps and diagrams with which the lecture was illustrated; and he concluded an able and eloquent discourse, of which the above is a mere outline, by alluding to the Barnsley seam of coal. At Barnsley, he said, the principal bed was 9 ft. thick, and yielded upwards of 10,000 tons to the superficial acre. Whenever pits were sunk in that district the speculators never dreamt of stopping at the intermediate seams of coal, but pushed down to the Nine-foot seam, which, in some instances, was 400 yards from the surface, and even deeper. There were in the surrounding districts of Barnsley large tracts of country in which not a single pit had been sunk; and there were also extensive fields of coal being worked where some years ago not a single bed was believed to exist; and he was strongly of opinion that in this district, as in the coal fields of Northumberland and Durham, the coal seams, after dipping in that direction, would be found to rise again towards the east.

Mr. J. E. NORRIS moved a vote of thanks to the lecturer, and expressed a hope that Mr. CARTER would supplement his present lecture by another, devoted more especially to the Coal Fields of Barnsley, and their origin. Mr. J. W. WARD seconded the motion, which, having been submitted by the Chairman (Dr. ALEXANDER), was carried with acclamation. Mr. CARTER, in responding, promised to comply with Mr. NORRIS'S request at some future time.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

Patent Agent and Adviser, Memb. Soc. Arts, Assoc. Soc. Eng.

An invention communicated to Mr. C. E. BROOMAN, by EMILE and P. E. MARTIN, of Paris, relating to the manufacture of cast-steel and its derivatives, has for its chief object the manufacture at one continuous operation on the sole of a reverberatory furnace, heated by gas, of four kinds of cast metal—hard steel, soft steel, cast-iron, and mixed metal—by the simple variation of the doses; this continuous process comprising three features—1. The original bath of casting.—2. The refining in succession by the addition of iron or ore.—3. The return of the bath to the desired point by adding a fresh quantity of casting, the process being based on the high temperature of the metallic bath, and on the carburization and decarburization of the metallic bath. The second object of the invention is the refining of the casting directly by the chemical action of iron, without any injection of air or steam. Thirdly, the invention has for its object the fusion of the casting in a liquid bath, the surface of which is preserved from oxidation by a gaseous layer, always reductive. Fourthly, the object is to manufacture cast-steel and its derivatives on the sole of a furnace, below which is an empty space for cooling. Fifthly, the invention has for its object the decarburization of the casting in presence of solid matters, which will absorb the carbon, such as ores of metals of iron and steel under the simple action of a very high heat (2900 to 3650° Fahr.) And the sixth object is the regulating of the decarburization and carburization of the bath by varying the work of the furnace and the dosing of the materials, according to the quantity of metal to be produced.

Mr. JOHN RUSSELL, of Manchester, has specified a system of flattening and straightening saws and similar plates, or blades, of steel during the process of hardening. It is usual to immerse the saws, or blades, after they have been made red-hot, in hot or cold oil, or a compound of oil and grease, with or without resin, in order to harden them, and generally they are much buckled, or twisted, when cold; and after being tempered they have to be flattened, straightened, and set by the hammer. Now, in Mr. Russell's system the saws, plates, or blades are made red-hot, and immered in the oil or greasy compound as before, but previously to their becoming cold the bends, buckles, or twists are taken out by placing the saws, plates, or blades, in a press, and pressing the plates together by one or more screws, cams, falling weights, hydraulic pressure, or any other mechanical means, the pressing-plates being either immered and working in the oil or grease, or placed outside the cistern, in which latter case the saws, plates, or blades are taken out of the oil or compound, and before they become cold are pressed between the surface-plates; but in either case the articles will be flat, straight, and even when hardened, and thereby a great saving in labour is effected.

Mr. ALEXANDER WILSON, of the Cyclops Steel and Ironworks, Sheffield, has patented and specified improvements in the casting of ingots, having for its object the casting of ingots of steel, or other metal, to any given weight. For this purpose the ingot mould is placed upon the table of a weighing-machine, or upon a table supported by a steel-yard or weighted levers, or suspended from a spring balance; the ingot mould, and everything in connection with it, is then weighed. By adding the weight of the ingot to be cast to the weight of the ingot mould and its accessories he is enabled to make the ingot of any given and desired weight; any other arrangement for weighing the ingot mould and its contents may be employed if preferred, and in addition a registered apparatus may be adapted thereto.

THE ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLOSIONS, AND FOR THE ATTAINMENT OF ECONOMY IN THE USE OF STEAM (whose report was referred to last week), held its annual meeting at the Town Hall, Manchester, on Wednesday (Mr. WILLIAM FAIRBAIRN in the chair), and it is gratifying to find that the position of the society is highly prosperous, and that its operations are productive of great public benefit. The Chairman stated that the increased number of members, and the increased number of boilers insured, had rendered the society not only exceedingly useful, but had tended in a great measure to prevent those disastrous accidents which had so often resulted from boiler explosions. He was quite satisfied that the guarantee fund was established on a true and proper principle, and that it would continue to be found highly advantageous. The association was established upon the exclusive principle of benefiting the members. They had no dividends to make, and they only aimed at making a thorough and careful examination of the boilers under their care, with the view of preventing the occurrence of explosions. The success of the association arose in a great measure not only from the true principle of the guarantee fund, but also from the efficiency of the inspectors, who regularly made a careful inspection of the boilers, and who were not only intelligent and clever engineers, but were able to give sketches and make reports upon every boiler which came under their inspection. As every insured boiler was annually inspected, it was almost impossible for an explosion to take place. The association had already insured the boilers of the House of Commons and the House of Lords, as well as those of the Post Office and the Woolwich Arsenal; and what they now wanted were the boilers of the Admiralty. Applications had been made both to the Duke of SOMERSET and Mr. CORRY, but they had the impression that their own officers were quite competent to manage the boilers. He considered that the course frequently pursued at coroner's inquests was unsatisfactory. It was proposed that application should be made to Government to require the assistance, in cases of boiler explosions, of scientific and trustworthy men, who would be able to show at once the real cause of the accident, and be able to point out to the jury in what way the accident occurred, and how similar catastrophes could be prevented. It was not proposed to apply for an Act of Parliament on the subject, but simply to request the Home Secretary to send directions to all the coroners throughout the United Kingdom to the effect that in all cases of boiler explosions they must be careful in selecting such men to give evidence as would be able to show the real cause of the accident. A series of important resolutions were passed, which will be found in the advertising columns of this day's Journal.

STEEL BOILERS—GREAT ECONOMY OF FUEL.—An important series of experiments for the purpose of ascertaining the relative advantages of iron and of cast-steel as a material for the construction of steam-boilers has recently been made at the well-known rolling mills of Messrs. FUNK and ELSERS, at Hagen, Westphalia. The boilers used in the experiments were both quite new, never having previously been heated, and were each 34 ft. long and 5 ft. diameter, capable of standing a pressure of 90 lbs. on the square inch. The thickness of the plates in the iron boiler was half an inch, whilst those of the steel boiler were one-third of an inch. Each had a heating surface of 293 ft. and 12 ft. of grate surface; and they were set in a precisely similar manner to each other. At first both boilers were filled, and fires were kept under them for several days in order to dry the brickwork, after which the fires were extinguished and the boilers emptied and cleaned. Each boiler then received exactly 712 cubic feet of water at 50° Fahr. temperature; the man-holes were closed, and the water was heated to the boiling point; again the fires were put out, and all the ashes and coals taken away. From this point the boilers were fired afresh, and fed with weighed fuel; the man-holes, hitherto kept closed, were now opened to let the steam escape, and the firing was so well regulated by means of dampers that the velocity of the escaping steam was the same from each boiler. After consuming on each grate 3160 lbs. of coal of the same quality, the cylinders of which were burned over and over again, the fires were put out, and the man-holes closed. On the following day the remaining water of the boiler, showing a temperature of 252°, was let out through the emptying tube, situated at the lowest part of the boiler, and measured by means of a hydrometer adapted to the tube. The iron boiler showed 387 cubic feet, and the steel boiler 331 cubic feet of the remaining feed water. Therefore, the water evaporated from the iron boiler was 20,965 lbs., and that evaporated from

the steel boiler 23,523 lbs., showing the evaporating capacity to be nearly 17½ in favour of the steel boiler. One pound of coal evaporated in the iron boiler 6360 lbs. of water, and the steel boiler 7467 lbs. of water at 212° Fahr. At the next trial the whole operation was performed in the same manner, only the velocity of the escaping steam was less. It resulted in showing 19·62 per cent. in favour of the steel boiler. One pound of coal evaporated in the iron boiler 5809 lbs., and in the steel boiler 7008 lbs. of water. With a view to verify the experiments, the boilers were again tested with salt water. To an equal quantity of feed water in each boiler an equal volume of a strong solution of salt was added. After stirring the water for some time, by means of long poles, and boiling it with closed man-holes, samples were taken out for future analysis. In completing this experiment in which equal quantities of fuel and water were used, further samples were taken out. The analysis of the samples by Dr. Lieszt, of Hagen, showed that in the iron boiler one quart of water contained before evaporation 4629 grammes of chloride of sodium, and after 5883; in the steel boiler one quart contained 4751 grammes before, and 7385 grammes of salt after evaporation; the iron boiler lost 67½ pints, and the steel boiler 81½ pints, showing nearly 21 per cent. in favour of the steel. The average of the three experiments was about 19½ in favour of steel.

#### REPORT FROM SCOTLAND.

MARCH 11.—The persistent prices of the last week in our Pig-Iron market were disturbed on Monday, when a smart rise of 3d. took place, which has since been barely maintained, but with a rather better business doing. The higher shipments this week have also helped to give tone to the market; and some are of opinion that the demand will shortly make prices better. The shipments from the whole of the Scotch ports for the week ended yesterday were 10,790 tons, against 14,050 tons in the corresponding week of last year; but of the former total 7775 tons were shipped foreign, against only 7715 tons in the same week of last year, which shows the deficiency to be wholly in the home consumption, which the moulders' strike is, no doubt, aggravating. There has been an importation of both English and Irish moulders into Scotland within the last two weeks; and, with the secessions from the Union which are taking place daily, it is expected that most of our foundries will, ere long, be fully manned; and the general resumption of business by the ironfounders will do some good to our pig-iron market. To-day prices were rather in favour of buyers, about 4000 tons less done at 52s. 10½d. cash, and 53s. and 53s. 1d. a month; closing sellers 53s. cash, 53s. 1½d. a month, buyers 1½d. per ton less; No. 1, g.m.b., 53s.; No. 3, 52s. 9d.; Gartshenic, 57s. 6d.; Coltness, 59s.; Langloan, 55s. 6d.; Glesgarnock (at Ardrossan), 55s. 6d. In manufactured iron, the demand for plates and angle is unimpaired, but it must be admitted that prices have not got so firmly established for these descriptions as was expected from the absence of orders for bars and rods, the Welsh houses booking orders from Glasgow at 2s. 6d. per ton (f.o.b. at Liverpool) under quotations here. There are, however, a few orders for mixed parcels for shipment doing at our merchant mills, which have made makers a little more cheerful; but there is still felt a deficiency in the trade when contrasted with former years. The Glasgow, Blochman, North British, and Govan brands are quoted 74; Rochsolloch, Monkland, Muirkirk, Coatbridge, and other brands, are 67. 15s., less 5 per cent. Ironfoundry (with the exception of pipe making), brassfounding, and copper working, are dull; marine castings being in some demand, but cannot be had on account of the moulders' lock-out.

The paralysis which has so singularly attacked the Coal Trades seems settling down into what surgeons would call a state of chronic coma, out of which it would appear almost impossible to rouse it. Our coalmasters seem generally working for the accumulation of stocks, which are being weekly added to, the ironmasters taking possession of the market, and pressing down prices to an abnormal extent by disposing of their surplus out-put at very low prices; and with it all the shipments are not acquiring very large proportions, the quantity for the week sent seaward being 20,275 tons, against 19,595 tons same week last year. Coals have been as low as our present quotations, but if they must be sold at the bank-head for 3s. 3d. a ton, what, we would ask Mr. McDonald, should be the price of their working? The colliers have had one conference this month already, but, when the question of wages was propounded, they only saw through the subject "darkly," and adjourned till March 30, when the following programme is to be taken up:—

1. A perfect organisation of the mining districts.—2. What shall be the governing power.—3. What efforts can be made to regain a portion of the reductions recently taken from the men.—4. A general restriction of labour over Scotland.

The case of Mrs. Wilson v. Merry and Cunningham, which has been appealed to the House of Lords, is exciting some stir amongst the miners at the present time, and great exertions are being made to get up a fund for the defence. The miners are but slowly responding to the call, and there are some fears that it may break down for want of cash.

Shipbuilding continues very busy in the Clyde, and the Messrs. Napier have just launched from their Govan building-yard a singular-looking iron-plated twin-screw turret ram, of 1473 tons B.M., for the Dutch Government. This terrible engine of war is named the De Buffel, and will carry two 300-pounder 12½ tons Armstrong guns in the turret, and four smaller broadside guns on the main deck. Her dimensions are—length, 205 feet, depth 24 feet, with 40 feet beam. Her sides are plated with armour 6 in. thick, backed with 10 in. of teak on an inner skin, right forward and aft, extending 3 ft. below and 2 ft. above the water line. The main deck consists of 6 in. of teak on a 1-in. plate. The wall on the main deck round the base of the turret, which is constructed on Capt. Coles' principle, is composed of 8-in. armour backed by 12-in. teak on an inch inner skin. The armour and backing on the turret are similar to those on the wall. Her engines, which are supplied by the same firm, are of 400 nominal horsepower surface condensers, and she is expected to attain a speed of 13½ knots an hour. The De Buffel looks as if she would prove a fearful foe in actual warfare.

#### REPORT FROM NORTHUMBERLAND AND DURHAM.

MARCH 12.—The Coal and Coke Trades have continued, on the whole, dull, and many of the works are working short time. The demand for gas and house coal is also extremely limited; and, consequently, the trade generally is entirely without spirit, and how long this is to continue is difficult to foretell. The time is approaching when the export trade will open out; and, therefore, the steam coal trade is hardly so bad as the other branches, but still it has been dull, as the traffic on the Blyth and Tyne Railway sufficiently attests.

The new shaft at Holywell has been got down to the coal, and a good seam has been proved, so that a large quantity of coal will be raised here very shortly.

The colliery bindings in Durham were generally carried out on Saturday, when a large number of men were engaged at most of the works. The prices for work remain precisely the same as before, and the best feeling appears to prevail between the parties, as we have often observed in this letter. Better houses and accommodation are being provided for the workmen at most of the collieries.

The pumping operations at the Wallsend and Hebburn Collieries are now going briskly forward. At Wallsend two engines are working four sets of pumps, 21 in. in diameter, from a depth of 42 fms.; of course, the quantity of water delivered by these pumps is enormous, and the water is being reduced at all the shafts in the neighbourhood. At Hebburn two engines are winding a large quantity of water; although no decided advance has been made downwards for a considerable time, yet the advance made has been easily maintained, and when it is recollected that a large area is to be drained, the work already accomplished must be acknowledged to be important. As the water is now reduced nearly to the level of the shaft lately put down, a communication will be made between the old and new shafts, and pumping power erected at the latter, and when this is effected a great advance downwards will be again made.

The Iron Trade, with only one exception, has not improved very materially as yet. The iron and engine-works generally remain in a very depressed state, but the iron shipbuilding trade is certainly improving, and the demand for ship-plates continues.

At Middlesborough market, on Tuesday, there was a good attendance of gentlemen from the district, and also others from a distance. Makers' stocks of pig-iron are reported to be decreasing. A large quantity of iron was sold, and prices remained firm, as follows:—No. 1, 47s. 6d.; No. 3, 43s. 6d.; No. 4, 42s. 6d. nett cash. The steel rails to be manufactured from Cleveland iron have not yet made their appearance, but it is expected they will be shown shortly. Mr. Jones, of Fox, Head, and Co.'s works, has pledged himself to produce a steel rail, and the delay is supposed to be caused by the erection of necessary machinery. The trade for Coal and Coke at this place is in a very depressed state, and prices have a downward tendency.

A meeting of the North of England Institute of Mining Engineers was held at the Neville Hall, Newcastle, on Saturday. The Secretary



read the proceedings of the council, after which several new members were elected. The principal business before the meeting was the paper of the Secretary, which was read, describing the various patents which have been taken out for winding, and other matters connected with the coal trade, a copy of which will be given shortly.

#### REPORT FROM THE FOREST OF DEAN.

MARCH 11.—The Coal Trade of this district is not quite so good as it was a few months since, and the merchants assign the mildness of the season as the principal cause. The weather has something to do with it, no doubt, but we think other causes have greater effects in producing a temporary stagnation in the trade. However, the men of this district have very little cause of complaint, for as yet all the pits are in operation, and we cannot hear of any hands being dispensed with at the principal works, nevertheless it is rumoured that a reduction is likely to take place at the Bilson Colliery, and it is further hinted that the men intend to resist; should this be the case we trust the men will see the necessity and wisdom of avoiding a strike. One great blessing, Trade Unions and lock-outs are not known among us; and as long as there exists a good understanding and feeling between masters and men prosperity will result to both parties when trade is good, and the latter be saved from want in times of depression. We trust that the men will never enter into trade combinations—so destructive to progress—against their masters, who are their best friends, for we cannot for a moment suppose that any proprietor would feel inclined, much less determined, to lower poor men's wages without great cause from adverse times. It is all very well for persons who risk their life and limbs underground to endeavour honestly to obtain as much as possible for their labour, but there ought to be reason in all things; and men should look at the other side of the question too—how owners of large works are to get back their capital expended, with a reasonable percentage as interest, taking into account fluctuations of trade, losses, and all other incidental expenses. We think that if the employed were better educated—but the vexed question is how?—and able to understand the "ins" and "outs" of trade generally, we should have more contentment amongst them, and hear less of trade unions and lock-outs in the mining districts.

The Iron Trade of the district appears to improve a little—at least, the furnaces in blast are in full operation. We cannot hear that much has been done to facilitate the opening of the Dean Forest Central Railway; it is, however, reported that a branch line, or siding, is in course of construction from the main line to the New Fency Colliery. The committee of consultation appointed on March 29, 1867, to enquire into and devise means for the better working of the Great Western Railway Company's affairs, stated in their concluding report that the reconstruction of the board appears to work satisfactorily, and beneficial results in the conduct of the company's business may be reasonably expected; we trust, therefore, that an extra stimulus may be given to their exertions, and that its influence will be felt by the opening of their branch line, which would eventually prove a great benefit.

The Great Western or Bowson Deep Colliery Company are still winding the water out of their pits by means of buckets, or tubs, and although there cannot be a much larger quantity than 300 gallons per minute coming into the works, they are just able when going full speed with the winding-engines to keep the water from flowing into the Bilson Colliery. Now, here appears to be a determination on the part of a wealthy company to squander a vast sum of money in carrying out ill-advised schemes, the result of which seems too real and apparent to be denied. If this company had taken the friendly advice tendered them, and secured Forest practitioners, they would never have been in their present deplorable condition. In this district shafts have been sunk and the mineral won under much greater difficulties, and with a much greater inflow of water than was ever experienced at the "Bowson," but the operations were conducted by Forest engineers and managers. No Forest proprietor would think of sinking for iron ore or coal without being provided with pumps and adequate engine-power. At one work here, belonging to Crawshaw and Sons, there is a pump, 27 in. in diameter, working day and night, capable of raising over 1800 gallons per minute. A pump 15 in. diameter, giving six strokes per minute, would raise more water than is actually coming into the Bowson Colliery, yet, strange to say, this company seem disinclined to cover their error by resorting to a pumping apparatus—indeed, it seems likely that after spending such a vast sum of money they are more disposed to abandon the works altogether; in fact, they have given notice of an intention to wind-up the company's affairs, but whether this implies a total abandonment remains to be seen.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

MARCH 12.—The more hopeful and cheerful tone referred to in last week's report, as being evinced in the Iron Trade of South Wales, is steadily increasing as the spring quarter approaches, and this, no doubt, is to some extent attributable to the large orders expected from the Russian and American markets. At one or two of the leading works the hands are better employed than they have been of late; but, as a rule, it cannot be said that actual operations have increased, and a large number of the workmen are but indifferently employed. The home trade has not materially altered its position during the past week, and it is evident that some time will elapse before the monetary difficulties, under which the railway and other large companies have to contend, are removed. A few engagements have been entered into, but only for such materials as are required for immediate use. The Baltic season has now commenced, and already vessels are wanted to convey rails from Newport and Cardiff to Cronstadt and Riga. Large as the exports were last year to the Muscovite Empire, it is confidently expected that there will be an increase this season, notwithstanding the alertness of Belgian and Prussian houses for the contracts for new rails to be shortly given out. Already the orders from that country are for considerable quantities, and not the slightest doubt exists as to the bulk of this year's requirements finding their way into the hands of makers in this district. Several thousand tons have lately been shipped to the United States, and there are some orders remaining on the books; and as stocks are now being slightly reduced, and enquiries steadily increasing, there is every probability of the rail-mills being better employed, and an improved trade done in railroad iron during the spring and summer months. Enquiries from the continental markets give indications of an increase taking place in the demand, but this will depend greatly upon a sufficient sum of money being obtained for the carrying out of new, and completing present, sections of railways in various parts of the Continent. For the miscellaneous descriptions there is a slight improvement in the demand, but prices are said to be so low that profits must be very meagre on most brands. Pig-iron is commanding a fair sale, and some of the most experienced speak with confidence of a considerable improvement in this branch before Midsummer. The improvement which lately set in in the Tin-Plate Trade is fully maintained, and orders are being more freely given out, at prices in makers' favour.

For Steam Coal there are as many enquiries as for some months past, but owing to the dissatisfaction still existing among the colliers at work and the large number on strike, shipments are not so speedily made as could be desired. In Glamorganshire, although the hands may be said to have accepted the drop, the quantity of coal sent down is barely sufficient to meet the requirements of merchants and shippers. Some uneasiness is now being felt, in consequence of the determination come to at meetings lately held by the hands employed at some collieries in the before-named counties to bring out their tools unless the masters advance their wages to what they were previous to the reduction. In Monmouthshire matters are still worse, as the majority of the colliers continue on strike, and the dispute between masters and men seem to be no nearer a satisfactory solution than on the first day of the turn-out, which is now beginning to have a serious effect on the trade of the district, the shipments of house coal during the past month showing a falling off of 17,316 tons, and unless an arrangement is come to in a few days there will be a much larger decrease for the present month. At Aberlillery and Abercarn the prospects are most discouraging, probably more so than those, as the majority of the colliers since the strike commenced, and at that time the manager and other officials at Abercarn used every exertion to keep in the fire, in order to maintain the ventilation, so that work might at any moment be resumed. Such were the threats and intimidation, that the manager could not prevail on the men to assist him and his coadjutors. The fire had to be extinguished, and the ventilation subsequently stopped. In the absence of ventilation gas has been accumulating (and it is well known that the Abercarn pit is of a fiery nature), and now it will be a most perilous task to re-enter the mine; so much so, that the Government In-

spector, Mr. Lionel Brough, has been consulted, and he has expressed his desire to be present when the attempt to renew the ventilation is made. Should the men express their willingness to accept the master's terms, some weeks must elapse before the pit could be got into working order. An offer to supply 700 men from the North of England has been made, and the arrival of a portion of that number in the locality would probably bring the South Wales colliers to their senses.

Mr. Richard Laybourne, late locomotive superintendent of the Monmouthshire Railway, has been elected a member of the Institution of Civil Engineers. Mr. Laybourne is about to assume the management of the Rhymney Ironworks.

Mr. Robinson has retired from the management of the Pontypool Works, belonging to the Ebbw Vale Company; and the same will, in future, be under the active supervision of Mr. Abraham Darby, the managing director of the company.

The Blaiva Works, which have been at a standstill for some time past, will, in all probability, be re-started before long, and the blast-furnaces are now being got into working order. The commencement of operations at these vast works will be a source of gratification to the whole neighbourhood, as a great amount of distress has prevailed throughout the district since the stoppage took place.

At the Swansea Assizes, 13 colliers and three women were charged with having riotously assembled, on Dec. 10, and pulled down three houses at Coedced. The riot arose in consequence of a number of Cornishmen, miners, having been brought into the district to fill the places of men on strike; and after hearing the whole of the facts connected with the same, the jury found the prisoners guilty of assembling together for an unlawful purpose, but not with a common object of demolishing the houses. His Lordship deferred sentence.

Judgment was given on Tuesday by Vice-Chancellor Malins in the suit of the Aberaman Ironworks v. Wickens. The facts of the case were given a few weeks ago, therefore the recapitulation is now unnecessary. The bill was dismissed as against Wickens, and the other defendants associated with him, with costs. To be without prejudice to any action that might be brought at law.

THE LLYNVI WORKS.—A meeting of delegates from the different levels of the coal and iron works was held at the Talbot Arms, Maesteg, on Saturday, to take into consideration further proceedings towards obtaining their rights on the following subject:—A draw every fortnight of 15s. to every 20s. earned, and that the pay should be (as was sometimes since the rule) six and seven weeks alternately, instead, as at present, of nine weeks, with one draw intervening. A petition having been sent up to the board, but no notice having been taken of the same, it was the unanimous opinion of the meeting that, unless their request was complied with, they would have recourse to unpleasant action; and further, should any person or persons be engaged in having changed them previously otherwise than at the company's shop, they and those who were represented by them would resist such oppression to the utmost. The meeting, which was very largely attended, then broke up, with a determination to resist all encroachments on their liberties. —*Cambria Daily Leader.*

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MARCH 12.—The long-continued depression in the Iron Trade of South Staffordshire has been rather less severely felt during the past week, but the condition of affairs is still very trying for persons of small capital, and rumours of probable failures are still floating about. The demand for the best brands of pig-iron is improving, and, as there appears to be some reason to hope that the state of the finished iron trade is about to undergo a change for the better, the improvement is likely to continue. The producers of pigs are moderately well sold for the current quarter, and some have orders running over a considerable portion of next quarter. Prices are stiffer, but the sharp competition kept up by other districts has prevented a positive advance in prices. On the whole, a more cheerful tone prevails in the district, but a sudden and very marked revival is scarcely anticipated.

The failure of Messrs. Murcott, Wright, and Co., has been followed by the suspension of Messrs. Tinsley, Wright, and Co., chain and anchor manufacturers, Tipton. The liabilities are estimated at nearly 30,000*l.* The assets are not expected to realise a large dividend. The creditors of John Jones, Green Lanes Furnaces, Walsall, are offered a total dividend of 4s. in *l.*, in two instalments. It is expected that this offer will be accepted, but in the meantime inspectors have been appointed to examine the estate on behalf of the creditors.

An action was brought to a close at the Worcestershire Assizes, on Monday, in which plaintiffs, a Mr. Jenkins and his wife, sought to recover damages from the Staffordshire Coal and Iron Company, for injury done to their health and property, through the discharge of noxious gases from the defendants' works at Oldbury. It was alleged that shortly after the plaintiffs went to reside near the defendants' works they began to feel unwell from the effects of a light blue vapour which was blown from the works. Pains in the throat, retching, and other symptoms compelled them to call in medical aid. The painting and paper of their house walls turned colour, the blinds rotted, and the house, in short, became untenable. One of the witnesses called by the plaintiffs stated that, in going to his employment, he used to make no vegetation could have lived there if the gases from the defendants' works had been injurious to human beings. They gave a verdict for the plaintiffs for 150*l.* In another case of a similar character, a verdict was given against the defendants for the same amount.

FIVE MEN CHOKED IN A PIT.—On Wednesday, an accident occurred at Clatterhall Colliery, Brettle-lane, by which three men and two boys were suffocated. The colliery is an old one, and is at present worked by Mr. E. Bower, fire-brick manufacturer. There are several old shafts in the colliery, and one of these had been converted into an upcast shaft, by a fire having been placed in it, with a view to improvement of the ventilation of the workings. Some portion of the old workings was on fire, and these had been cut off from the other part of the colliery by a dam built across the air-course. One of these dams was near the bottom of the upcast shaft. This, on Wednesday, was leaky, and it was determined to place a quantity of sand against it, so as to close the interstices. Joseph Shaw, the butty, thought that the sand should be taken down and conveyed by the usual roads through the workings to the place where it was required; but the doggy, Josiah Chivers, was of opinion that it would be easier to take the fire out of the upcast shaft, and throw the sand down the pit. Unfortunately, the butty gave way to him. The sand having been put down, the men went to the place and began their operations. William Shaw, son of the butty, stood at the top of the upcast shaft, to communicate with the men below. About 1 o'clock, in answer to a signal, he was assured all was right, but he received no answer to the next signal he gave in about a quarter of an hour. He and his father then went down into the workings by the usual pit, but found the choke-damp so strong that they had to return to surface. Means were taken to drive the choke-damp out; and, this having been effected, several men penetrated to near the place where the men had been at work. About 20 yards from it they found the corpses of all five lying close together. They were on their way out when they had been overpowered by the choke-damp. There is no doubt that the accident arose from the fact of the fire having been taken out of the upcast shaft. This destroyed ventilation, and allowed choke-damp to accumulate, with the fatal effects stated.—*Birmingham Daily Post.*

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

MARCH 12.—There is no alteration whatever to note in the state of trade in the northern part of Derbyshire. The ironworks are kept going so far as the make of pig is concerned, but for rails, plates, hoops, and sheets, as well as castings, there is no improvement whatever to notice. Most of the collieries are working short time, and even at Clay Cross business is very dull, the company during the past month having only sent 29,926 tons to London, being nearly 5000 tons less than for the previous month. In the Burton-on-Trent district the effect of the dispute, which has now lasted nearly a year, is being felt. Notwithstanding the fact that although a large number of the men still remain out, and are in receipt of Union pay, yet the collieries have rather more than they require, so that not only are the pits working short time, but a good deal of coal is stacked in all directions. The attempt of Mr. Bass, M.P., to bring matters to a close, as was anticipated, signally failed. The men were quite willing to agree to arbitration, and to receive Earl Lichfield as arbitrator; but the masters, on being appealed to, said there was nothing to be referred. The matter was simply the employment of non-Union men or otherwise, and the masters considered they had a right to employ what persons they pleased, without dictation from any person or persons. As it is, they have their collieries now full handed, so that the men now out, said to number 300, will have to be a continual drag on the Union funds, or seek for work in other districts.

In several of the departments of the Sheffield trades there is a decided improvement, but business generally is far from being active, more particularly for the home markets. At some of the works in the neighbourhood of Rotherham there is rather more doing, but throughout the South Yorkshire district generally the demand for merchant iron is by no means brisk. Still a feeling prevails that a change for the better will take place ere long. The steelworks are not doing so much as in the early part of the year, and at the works at Penistone the men are on short time.

The Coal Trade remains in the same quiet state which has characterised it for some time past, so that short time is now the rule throughout the district. There is a marked falling off in the tonnage forwarded to London, particularly by railway, the quantity for the month of February having fallen to 232,879 tons, whilst for the two months of the year there has been 37,350 tons less than for the same period of 1867. In steam coal there is also less doing, although an improve-

ment in the foreign trade may be expected for Hull and Grimsby, to the North of Europe as well as to France. In the present state of trade a reduction of wages is talked of; but as the miners' Union is all powerful, the masters having no cohesion amongst themselves, it is very questionable indeed whether such an attempt would be successful. At the Oaks Colliery the work of clearing is going forward satisfactorily: having got to the dumb-drift in the cupola, some 30 yards from the bottom, the work in that direction has been to some extent suspended. The men are now clearing the road between the downcast shaft and the cupola, so as to obtain a good current of air. When that is done, and the area of clearing extended, a number of bodies will doubtless be met with. So far as the catastrophe is concerned, it is worthy of remark that now it is scarcely ever mentioned, even in the hamlet close to the pit.

#### FOREIGN MINING AND METALLURGY.

No improvement can be reported in the French metallurgical markets. A few current orders had induced hopes of a general revival in affairs, but these hopes have not been sustained, and all the markets have been quiet. At St. Dizier charcoal-made pig for refining is quoted at 4*l.* 4s. to 4*l.* 6s. 6d. per ton. In the Meurthe and the Moselle, with the exception of good pig for casting purposes, which is easily run off, affairs remain extremely quiet. In these districts much Essen coke is received, which is less friable, but more sulphurous than the coke of the Sarre. The latter inconvenience here indicated is deemed of little importance, having reference to the facility with which refining pig can be relieved of the sulphur by means of a blowing apparatus, which is inexpensive and easily established. The combustible of the Sarre district is cheap, and there is, accordingly, a disposition to be very indulgent as regards the coke, as well as regards the coal of the basin of the Ruhr, which also begins to arrive in large quantities in the Meurthe and the Moselle. Efforts are being made at present to obtain a contract for rails for some German railways, but nothing positive is yet known on the subject. The council of administration of the Rive-de-Gier Colliery Company proposes to fix the dividend for the second half of 1867 at 3*l.* 4d. per share. Meetings are announced as follows:—Montebas Tin Mines Company (Limited), March 28, at Paris; Grande Combe Mines Company, April 18, at Paris; and Centre du Flénu Colliery Company, May 4, at Paris.

There is a somewhat generally wide-spread hope of a revival in business affairs in Belgium, but nothing has yet occurred to confirm this expectation. Nevertheless, orders to meet current requirements continue to arrive at the rolling mills. Upon the whole, if the state of the Belgian iron trade has not materially improved, it is certainly not worse than it formerly was. The Russian Government has made from time to time strenuous efforts in order to stimulate and encourage the national metallurgical industry; but, nevertheless, the heavy orders for fixed and rolling stock, to which the construction of a large network of railways in the Russian empire has given rise, have been in a great measure carried off by foreign industry, and hence great complaints have been made by several industrialists, who have found themselves powerless to contend against foreign competition. The result has been the springing up of a strong protectionist party, who have brought their influence to bear upon the Government with the greatest vigour, in order to obtain the imposition of a heavy duty on the imports of engines, iron, and railway plant. Some of the Russian industrialists, who appear to be actuated by lofty sentiments, have, however, constituted themselves champions of free trade principles, and have prepared a *mémoire*, in which they argue that the consequences of restrictive measures being applied to the importation of foreign iron and machinery into Russia would be disastrous to national industry generally. Thus, they state that they regard machinery as a means of arriving in industry at certain given results, and they consequently consider the extended employment of improved engines and machinery as peculiarly important for the country. They sum up their views by observing that the multiplication of machinery in Russia is more than ever called for by the interests of the empire, that this multiplication can only be effected by cheapness of price, and that this cheapness can only be obtained by the free importation of iron and machinery. Meetings are announced as follows:—Thy-le-Château, Blast-Furnaces and Forges Company, March 14, at Charleroi; Piéton Campagne Colliery Company, March 17, at Charleroi; Grand Mambourg-Sablonnière Collieries Company, March 18, at Montigny-sur-Sambre; Monceau Blast-Furnaces Company, March 18, at Monceau-sur-Sambre; Capelle-sur-Yssel Rolling Mills Company, March 18, at Capelle-sur-Yssel; Grands-Markets Colliery Company, March 19, at Jemeppe; Sacré Madane Colliery Company, March 30, at Antwerp; Valley of Piéton United Collieries Company, March 31, at Roux; Eschweiler Mines and Foundries Company, March 31, at Blankenberg-Stolberg (Aix-la-Chapelle), &c.

It appears that the total profits of the Rive-de-Gier Colliery Company for 1867 (including 2906*l.* brought forward from 1866) were 28,542*l.* After providing for certain redemptions, and dividing 6s. 8d. per share for the whole of 1867, a balance of 717*l.* remains to be carried forward to the next account. The Spanish Minister of Marine has invited tenders for the supply of 24,000 tons of coal for the use of the Spanish Navy.

The Belgian General Company for Promoting the National Industry has just reported progress for 1867. It appears that last year a return was realised on the capital engaged in collieries at the rate of 6.65 per cent. per annum, while the investments made in metallurgical concerns produced 8.30 per cent. per annum. The Carabinier Colliery is stated to be making progress, so that its working promises better results in an early future. This colliery, which comprises a concession of 704 acres on the territory of Chatelet, contains on favourable conditions one of the principal groups of beds in the Charleroi basin. The extraction of iron ore is effected by a single pit, and the following figures indicate the coal production effected, and the profits realised during the last three years:—

Year.	Production.	Profits.
1865	.....Hectolitres 481,000	.....£1736 0 0
1866	.....478,000	.....3222 0 0
1867	.....487,000	.....4811 0 0

By deducting every year a large slice from the profits the company has been able to sink a new pit, without prejudicing the financial position of the undertaking. It is expected that the new pit will be brought into activity in October, and the colliery will then have two well equipped centres of extraction, and it will be practicable to carry the production to double its present amount. It is stated that the progress of the Couillet and Chatelet Works has remained relatively satisfactory in the midst of the difficulties against which Belgian siderurgical industry has had to struggle for two years. The progressive fall in the price of iron has sensibly diminished the production of the rolling-mills, but the collieries, which form the principal element in the property of the two companies, have presented an increase of revenue equal to, if not in excess of, the diminution of profit in other branches. This augmentation is more particularly due to the Marcinelle Colliery Company, the working of which has been developed to such an extent as to produce a profit of more than 2000*l.* per month. Unless unforeseen circumstances should arise, it is expected, then, that the general results of the current exercise will not be inferior to those of the preceding exercise as regards these two concerns, in which the General Company has a considerable interest. The metallurgical establishments patronised by the General Company, and several other Belgian companies, have formed a participative association, in order to obtain railway contracts abroad, and special agents have been appointed for the negotiation of affairs in France, Russia, and Italy. If it cannot be hoped that Belgian industrialists will altogether cease to sustain abroad a disastrous competition with each other, at any rate an understanding between a great number of establishments will place Belgian industry in a better position to contend against its natural rivals.

The demand for Chilean copper at Havre has greatly revived during the last few days, and the price of disposable has gradually risen from 71*l.* 8s. to 72*l.*, and 73*l.* per ton; for delivery at the end of March business has been done at 72*l.* 14s. per ton, at the end of April at 73*l.* per ton, and at the end of May at 73*l.* 10s. per ton. One lot of disposable refined Urmeneta has realised 76*l.* per ton. Transactions have been sustained, and prices have been firm at Paris, Chilean in bars making 72*l.* to 73*l.*, and Corocoro mineral 74*l.* to 74*l.* 10s. per ton. Although the demand for copper has moderated on the Marseilles market, former rates have been firmly maintained. German correspondence reports that on several markets the article has participated in the upward movement noticed in France and England; at Berlin, Cologne, and Stettin there has been a slight majoration on preceding rates. The Dutch tin markets present a more animated aspect: the Netherlands Society of Commerce has announced for March 31 its public sale of Banca tin, when 51,000 ingots are offered for competition—17,999 ingots deposited at Rotterdam, 26,200 at Amsterdam, 2800 at Dordrecht, 2100 at Middelburg, and 2100 at Schiedam; these quantities will be offered for sale in lots of 100 ingots each. The direction has made no changes in the conditions of sale, and has announced, as in former years, that it will put no other tin on the market before the public sale, which it proposes to hold in the autumn, that before that period the Government will hold no public sale of this metal in India, and that until the same date the deliveries from Java on Government account will not exceed 10,000 piculs. The total quantity offered for sale is rather sensibly below the quantities at the good present tone of the article is attributed to this fact. At Amsterdam and Rotterdam, Banca—which was dealt in a week since at 52½*fl.*—has since given rise to important sales at 53½*fl.*, 53½*fl.*, and 54*fl.*; one lot of 700 ingots from the approaching public sale has found a purchaser at 54½*fl.*; Billiton has risen from 51¼*fl.* to 53*fl.* Tin continues to be readily run off on the German markets to meet the requirements of consumption; there has been little change in prices, which, nevertheless, have acquired more firmness. Lead is firm on many foreign markets. Zinc displays little change.

RAILWAY IRON.—The exports of railway iron from the United Kingdom experienced a sensible increase last year. They declined to several countries, but showed a decided augmentation as regards Russia, the United States, and British India. Thus, to Russia we sent 125,898 tons of railway iron in 1867, against 55,440 tons in 1866, and 40,005 tons in 1865; to the United States, 165,215 tons, against 105,248 tons in 1866, and 56,542 tons in 1865; and to British India, 168,538 tons, against 134,394 tons in 1866, and 109,690 tons in 1865. The total exports of railway iron for last year were 582,420 tons, against 498,021 tons in 1866, and 434,300 tons in 1865. The value of these important exports amounted to 4,889,369*l.* in 1867, against 4,183,198*l.* in 1866, and 3,550,563*l.* in 1865. The quantities of railway iron exported year by year in the ten years ending 1867 were:—1858, 433,250 tons; 1859, 528,927 tons; 1860, 453,445 tons; 1861, 377,565 tons; 1862, 400,765 tons; 1863, 446,440 tons; 1864, 408,215 tons; 1866, 494,300 tons; 1866,







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 ments, perfected their coal cutting machinery, worked by compressed air, are  
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The results of twelve months' experience in the working of these machines, by  
 the West Ardsley Company, have proved most satisfactory, their use being found  
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 who may MAKE FOR SALE, or USE ANY MACHINERY in the construction  
 of which any such INFRINGEMENT is MADE.

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 Nos. 1 and 2 for SHIPS' BOTTOMS; 3 and 4 for RAILWAY AND  
 MINING PLANT, &c.

FROM P. J. MARGERY, ESQ., C.E., ENGINEER OF THE SOUTH DEVON RAIL-  
 WAY COMPANY.

South Devon Railway Engineer's Office, Dawlish, Sept. 23, 1865.  
 I have extensively used Messrs. Peacock and Buchan's No. 3 paint or com-  
 position, on the viaducts and bridges of the South Devon Railway, and I consider  
 it to be a paint of very good qualities, and that two coats of it are equal to three  
 of other paints; also that its durability is greater.

(Signed) P. J. MARGERY, Engineer S.D.R., M.I.C.E.  
 N.B.—The South Devon Railway Company have continued to use it, and are  
 now painting their stations with it. — February, 1868.

EXTRACT OF A LETTER FROM EDWARD WOODS, ESQ., C.E.

DEAR SIR,—Please prepare 6 cwt. of your composition for preserving timber;  
 put up in strong wooden casks, to go round the Horn for the Copley Railway  
 Company. Believe me, yours truly,  
 Capt. George Peacock. (Signed) EDWARD WOODS.

For price, &c., apply to—  
**PEACOCK AND BUCHAN, SOUTHAMPTON.**

**DYNAMITE, OR NOBEL'S PATENT SAFETY  
 BLASTING POWDER,**

May now be had from  
**MESSRS. WEBB AND CO., CARNARVON,**  
 Sole consignees from the patentee.

This powerful BLASTING AGENT will not explode from a spark, or concus-  
 sion alone, but requires the combined effect of both, and is fired by a strong  
 percussion cap and ordinary fuse. In a compressed state it may be fired in damp  
 holes, or under water.

Force, SEVEN TIMES that of the BEST GUNPOWDER.  
 It will shiver to pieces cast or wrought-iron, or the toughest teak timber. No  
 tamping is required. It is by far the safest explosive for blasting purposes  
 ever discovered.

**NITRO-GLYCERINE, OR NOBEL'S PATENT  
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**THE EXPLOSIVE FORCE OF THIS BLASTING OIL IS TEN  
 TIMES THAT OF GUNPOWDER, and the ECONOMY AND SAVING IN  
 TIME, LABOUR, and COST in removing granite and hard rock, in sinking  
 shafts, driving tunnels, and opening forward in close ends is immense.**  
 It will not explode from a spark or fire, but from concussion alone, and is con-  
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Being heavier than water it sinks to the bottom of a wet hole, no other tam-  
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 One charge of this blasting oil, which is now being used with wonderful effect  
 in all the largest slate quarries in North Wales, will displace as much slate rock  
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This invaluable quarrying agent may now be obtained from Messrs. Webb  
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 Memb. Soc. Arts, Assoc. Sec. Engineers, Author of the "Inventors' Almanac,"  
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**GALLOWAY BOILER TUBES**

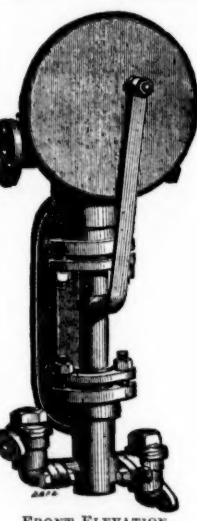
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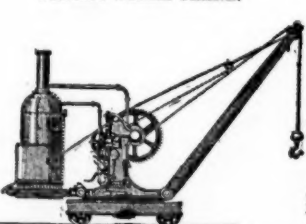
It has been tested in a great variety of ways, and is found to be at least equal to any that can be met with. It is uniform in qua-  
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By Royal Letters Patent, No. 1539, dated June 2, 1866.

		REDUCED PRICES.		Approximate gallons thrown per hour.		Price.	
Size.	Ram.	Stroke.	Approx. horse-power	At 100 rev.	At 150 rev.	At 200 rev. p. min.	
No. 4	1 1/2	3	15	115	172	230	£ 8 10
5	1 3/4	3	22	180	270	360	11 0
6	2	4	30	240	360	480	12 10
7	2 1/4	4	40	345	517	690	14 0
8	2 1/2	5	55	475	712	950	17 0
9	2 3/4	5	75	585	877	1170	19 0
10	3	6	90	720	1080	1440	22 0
11	3 1/4	6	110	870	1305	1740	24 0
12	3 1/2	6	120	1030	1545	2060	26 0
13	3 3/4	8	150	1290	1965	2640	30 0
14	4	8	180	1560	2350	3120	34 0
15	4 1/4	8	220	1920	2880	3840	40 0

\* The two last are double-acting.

Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.

Each Injector is guaranteed to work effectually, and any one failing to give satisfaction may be returned.

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PARIS EXHIBITION, } Silver Medal for STEAM CRANES.  
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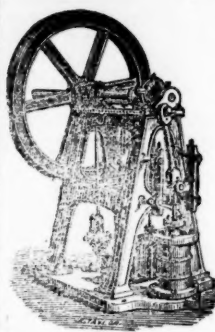
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Engineers and Patentees of STEAM CRANES, DONKEY PUMPS, &c.

PATENT DONKEY PUMPS.

Nos.	1	2	3	4	5	6	7	8	9
Diam. of ram .. 1 1/2 in.	2 in.	2 1/4 in.	2 1/2 in.	2 3/4 in.	3 in.	3 1/4 in.	3 1/2 in.	3 3/4 in.	4 in.
*Gall. per hour .. 230	400	650	850	1200	1500	2100	2500	3800	4100
Approx. H.P. ....	15	25	40	60	80	95	130	150	230
Single-acting price £10	5	12 10	15	20	25	30	40	45	60
Double-acting do. 11 10	14	17	20	24	28	32	42	48	65
Double-acting pump on base plate	27	32	38	45	52	60	75	85	110

\* Calculated at 200 strokes per minute.



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CAST STEEL PISTON RODS, CRANK PINS, CON-  
 NECTING RODS, STRAIGHT and CRANK

AXLES, SHAFTS and

FORGINGS OF EVERY DESCRIPTION.

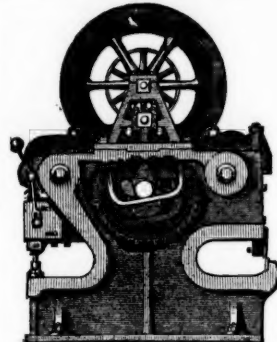
DOUBLE SHEAR STEEL, FILES MARKED  
 BLISTER STEEL, T. TURTON  
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Locomotive Engine, Railway Carriage and Wagon  
 Springs and Buffers.

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Where the largest stock of steel, files, tools, &c., may be selected from.

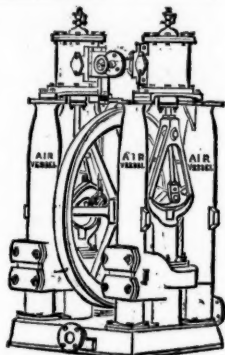


JOHN CAMERON'S

PATENT DOUBLE CAM LEVER  
 PUNCHING and SHEARING  
 MACHINE.

1 1/4 x 1 1/4 in. x 24 in. — 8 tons, £185.

EGERTON STREET, HULME,  
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STEAM PUMPS,

From 2 to 12 in. diameter,

SINGLE AND DOUBLE-ACTING.

WORKS,  
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# J. JACKSON AND CO., ENGINEERS, LONDON, E.C.

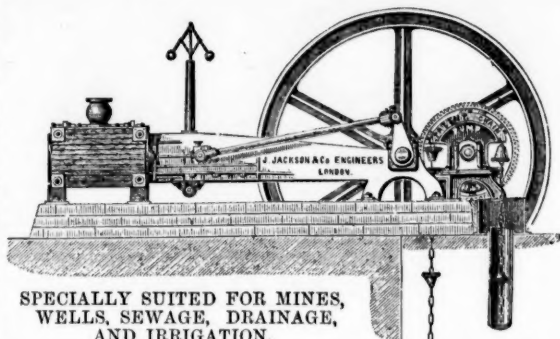
## BASTIER'S PATENT CHAIN PUMP.

This is the most efficient pump ever introduced to public notice for deep vertical lifts. It is cheap in its first cost, requires no cleaning and little attention, and the cost of maintaining it with duplicate wearing parts is very small.

The water is lifted through vertical tubes. At every interval of 50 yards a contracted part, or working barrel, is inserted, smaller in diameter than the main pipe, one of which is always placed at the lower end. An endless chain passes over the driving wheel at the top, going down free, and coming up through the tube, into which it enters by a bell-shaped mouth-piece. On this chain are fixed india-rubber discs, smaller in diameter than the main pipe, but fitting tight in the working barrels, so that all the water that enters is forced up and carried through the main pipe. The discs being free all round from the pipe for nine-tenths of the whole distance, reduces the friction to a minimum.

Eighty-seven per cent. of the whole area of the tube is lifted in water. A 3½ in. pump has lifted 120 gallons per minute, from a depth of 270 ft., with 10·75 indicated horse power; other sizes in proportion. These pumps are now at work throughout England, sizes varying from 2½ to 15 in. diameter, and up to 300 ft. deep.

A SMALL PUMP MAY BE SEEN AT WORK ON APPLICATION TO MESSRS. J. H. GREENER AND CO., 5, JOHN STREET, ADELPHI, W.C., WHO WILL ALSO SUPPLY ANY INFORMATION REQUIRED.



SPECIALLY SUITED FOR MINES, WELLS, SEWAGE, DRAINAGE, AND IRRIGATION.

PUMPS WITH STEAM ENGINES, AND CATTLE, WIND, OR HAND-POWER GEAR,

Manufactured by the proprietors of the patent,

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PRICE LISTS ON APPLICATION.

FOR THE COUNTIES OF NORTHUMBERLAND, DURHAM, YORK, DERBY, AND NORTH STAFFORD, APPLY TO

MR. THOMAS GREENER,

MINING OFFICE, NORTHGATE, DARLINGTON:

AGENTS FOR SCOTLAND,

MESSRS. P. AND W. MACLELLAN,

127 and 129, TRONGATE, GLASGOW.

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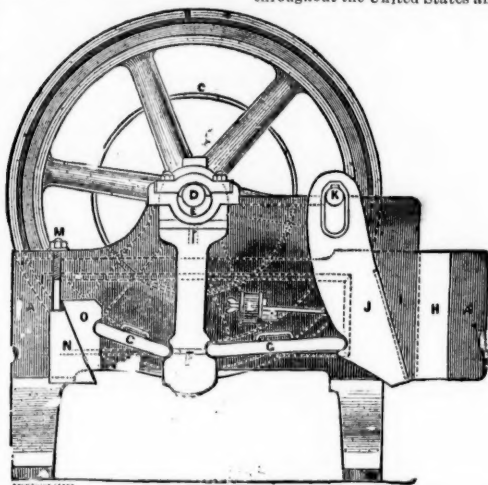
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MCADAM ROAD MAKERS, &c., &c.

## BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—



*The Parys Mines Company, Parys Mines, near Bangor, June 6.*—We have had one of your stone breakers in use during the last twelve months, and Captain Moreton reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour. For the Parys Mining Company, JAMES WILLIAMS.

*H. R. Marsden, Esq., Eton Emery Works, Manchester.*—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery. For H. R. Marsden, Esq., THOS. GOLDSWORTHY & SONS.

*Alkali Works, near Wednesbury.*—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

*Welsh Gold Mining Company, Dolgelly.*—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust. Messrs. ORD and MADDISON, Stone and Lime Merchants, Darlington.

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*Oveca, Ireland.*—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. Wm. G. ROBERTS.

*General Fremont's Mines, California.*—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,

ONLY MAKER IN THE UNITED KINGDOM.

### CAUTION!

## BLAKE'S PATENT STONE BREAKER,

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

## ISAAC STOREY AND SON,

MAKERS OF

DOMES AND OTHER FITTINGS FOR LOCOMOTIVE ENGINES,

STILLS, PANS, AND GENERAL COPPER WORK,

IMPROVED WATER GAUGES, BLOW-OFF COCKS, SAFETY VALVES, FUSIBLE PLUGS, &c.,

As recommended by the Steam-Boiler Associations.

GENERAL STEAM WORK, WHEEL VALVES, SLUICE VALVES, COCKS, &c.

IMPROVED GAS VALVES.

## BABBITT'S AND FENTON'S PATENT ANTI-FRICTION METALS,

Wholesale Agents for Bourdon's, Schaeffer's, and other good Makers of

STEAM AND VACUUM GAUGES;

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STEAM ENGINE INDICATORS.

Wrought Iron Tubes and Fittings for Steam and Gas Work.

## KNOTT MILL BRASS AND COPPER WORKS,

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24, DEANSGATE, NEAR THE EXCHANGE.

LITTLE PETER STREET,

MANCHESTER.

Illustrated Lists on Application.

## PATENT FLEXIBLE TUBING,

AND BRATTICE CLOTH FOR MINES

MANUFACTURED BY

ELLIS LEVER,

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### BICKFORD'S PATENT SAFETY FUSE

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862, in London; at the "IMPERIAL EXPOSITION" held in Paris, in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; and at the "UNIVERSAL EXPOSITION," in Paris, 1867.



BICKFORD, SMITH, AND CO.,

of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

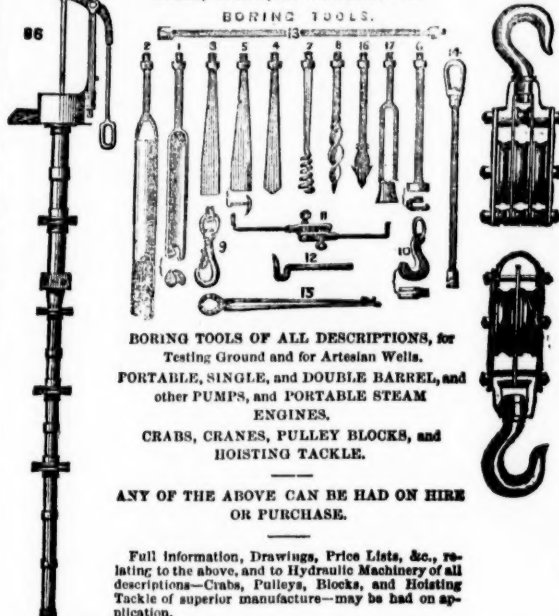
### S. OWENS AND CO. (LATE CLINTON AND OWENS),

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HYDRAULIC AND GENERAL ENGINEERS.

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BORING TOOLS OF ALL DESCRIPTIONS, for Testing Ground and for Artesian Wells, PORTABLE, SINGLE, and DOUBLE BARREL, and other PUMPS, and PORTABLE STEAM ENGINES, CRABS, CRANES, PULLEY BLOCKS, and HOISTING TACKLE.

ANY OF THE ABOVE CAN BE HAD ON HIRE OR PURCHASE.

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NERVOUS DEBILITY: ITS CAUSE AND CURE.—Before seeking aid from the so-called remedies without medicine, read this valuable work on the Treatment and Cure of Nervous and Physical Debility, Loss of Appetite, Pains in the Back, Spasmodic, &c., with Plain Directions for Perfect Restoration to Health. Sent post free to any address, on receipt of two postage stamps. Letters of enquiry or details of case promptly answered. Address, Dr. SMITH, 8, Burton-crescent, London, W.C.

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A daily list of Closing Prices will be forwarded on application.  
Mr. BEAZLEY recommends the immediate purchase of Clifton, Prince of Wales, New Lovell, Lovell Consols, West Caradon, West Frances, and Redmoor. Information respecting these and several other mines may be had on application.  
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The market for metals is improving, and the effect must be to raise the price of all good shares.

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Special business in Penhale United, New Great Consols, Frontino, and North Trekerby.

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Mining, Railway, and other Shares bought, sold, or exchanged. Shares sold in mines and quarries that will pay 15 to 20 per cent. per annum.  
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INSTANTANEOUS COMMUNICATION WITH THE STOCK AND MINING EXCHANGES, avoiding the delay and annoyance of visiting the City to ascertain prices. A Monthly Investment Circular on application.

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Gentlemen requiring reliable and correct information respecting any Coal or Iron Mine Property in the Forest of Dean may obtain it on application.  
Surveys, Plans, Reports, and Valuations on the usual moderate terms.

IN THE MATTER OF THE COMPANIES ACT, 1862, AND IN THE MATTER OF THE NORMAN CHINA CLAY AND TIN WORKS COMPANY (LIMITED).

**NOTICE IS HEREBY GIVEN, that ALL PERSONS having any CLAIMS or DEMANDS AGAINST THIS COMPANY, which is being WOUND-UP VOLUNTARILY under the said Act, are HEREBY REQUIRED to SEND NOTICE and PARTICULARS of SUCH CLAIMS or DEMANDS to the Liquidator of the said company, at his office, 25, Bucklersbury, in the City of London, on or before the 24th day of March instant, after which time he will proceed to distribute the assets of the company among the persons entitled thereto, having regard only to the claims or demands of which he shall then have had notice, and he will not be liable for the assets so distributed, or any part thereof, to any person of whose claim he shall not then have had notice; and all persons omitting to send in notice of their claims or demands by the time and in manner aforesaid, will be EXCLUDED from the BENEFIT of DISTRIBUTION of the company's assets.**  
CHARLES WARWICK, 25, Bucklersbury, London  
(Liquidator of the said company).  
Dated 2d March, 1868.

**THE GREAT LAXEY MINING COMPANY (LIMITED).**  
At a MEETING of the DIRECTORS held at the company's offices, No. 5, Sherborne-lane, King William-street, London, on TUESDAY, March 11, 1868, the usual QUARTERLY DIVIDEND of TEN SHILLINGS PER SHARE was DECLARED, payable on the 24th instant.  
W. ALLEN, Secretary.

**CENTRAL AMERICAN ASSOCIATION (LIMITED).**—Notice is hereby given, that a SPECIAL GENERAL MEETING of the Central American Association (Limited) will be HELD at the office of the company, 4, Westminster-chambers, Victoria-street, S.W., in the City of Westminster, on FRIDAY, the 20th of March, 1868, at Two o'clock P.M., for the purpose of passing, or otherwise, the following special resolutions:—  
1.—That the capital of the company be reduced to £30,000, divided into 30,000 shares of £1 each.  
2.—That the sum of £1 per share be returned to the holders of all issued shares upon which the sum of 30s. per share is now paid up, payable by two equal instalments,—on the 1st of October, 1868, and 1st of February, 1869.  
Notice is also given, that a further SPECIAL GENERAL MEETING of the Central American Association (Limited) will be HELD at the said office of the company, on FRIDAY, the 3d of April, 1868, at Two o'clock P.M., for the purpose of confirming the said resolutions.

By order of the Board,  
EDWARD SCHUBERT, Acting Secretary.  
4, Westminster-chambers, Victoria-street, London, S.W., March 6, 1868.

**UNITED MEXICAN MINING COMPANY (LIMITED).**  
Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of proprietors will be HELD at the office of this company, on WEDNESDAY, the 25th day of March inst., at Two o'clock precisely, for the purpose of submitting a proposition for the acquisition by the company of certain mines in Mexico, and, if so agreed upon, for calling up such further portion of the capital as may be determined.

The Transfer-books will be closed on the afternoon of the 14th inst., and reopened on the day succeeding the meeting.  
By order of the Board,  
W. M. BROWNE, Secretary.  
Office, 3, Great Winchester-street-buildings, E.C., London, March 6, 1868.

**DON PEDRO NORTH DEL REY GOLD MINING COMPANY (LIMITED).**—Notice is hereby given, that the SIXTH ORDINARY GENERAL MEETING of the company will be HELD at the London Tavern, Bishopsgate-street, on MONDAY, the 23d day of March instant, at Two o'clock precisely, for the transaction of the business of the company, including the election of directors and auditors, and the declaration of a DIVIDEND.  
The Transfer Books of the company will be closed from the 16th to the 23d instant, both days inclusive.

By order of the Board,  
JOHN E. DAWSON, Secretary.  
9, Size-lane, Bucklersbury, March 12, 1868.

**MR. THOMAS THOMAS,** ASSAYER, &c.,  
COPPER ORE WHARVES, SWANSEA.

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Assays and analyses of every description of mineral and other substances, minerals, &c.  
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MINING PROPERTIES INSPECTED AND REPORTED ON.

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**INTERNATIONAL MINING AGENCY,**  
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A Register kept of every description of Mineral Lands and Mining Shares for Sale.—Properties Viewed and Reported on, and their Purchase or Sale, when required, negotiated for a moderate commission.—The services of Explorers, Overseers, &c., engaged for Mine Owners.—Maps, Diagrams, Statistics, and useful information regarding each district supplied.—Returns made for absent proprietors.

## THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.									
Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.		
1500	Alderley Edge, c, Cheshire	10 0 0	—	—	9 7 8	0 5 0	Jan. 1868		
200	Botallack, t, c, St. Just	91 5 0	—	—	488 15 0	5 0 0	May 1868		
4000	Brookwood, c, Buckfastleigh	1 11 0	—	—	0 7 6	0 2 0	Dec. 1867		
1000	Bronfloyd, t, Cardigan	12 0 0	—	—	9 3 0	0 6 0	Jan. 1868		
6400	Cashwell, t, Cumberland	2 10 0	—	—	0 1 6	0 1 0	Aug. 1866		
916	Cargill, s, Newlyn	15 5 7	20	20 22	14 5 0	0 10 0	Jan. 1868		
509	Creebrawse and Penkell, t	—	—	—	1 0 0	1 0 0	Oct. 1867		
867	Cwm Erfin, t, Cardiganshire	7 10 0	—	—	25 18 0	1 0 0	Jan. 1868		
128	Cwmystwith, t, Cardiganshire	—	—	—	381 10 0	2 0 0	Dec. 1867		
280	Derwent Mines, s, t, Durham	300 0 0	—	—	174 10 0	5 0 0	June 1867		
1024	Devon Gt. Consols, c, Tavistock	1 0 0	450	—	1088 0 0	7 0 0	Jan. 1868		
655	Ding Dong, t, Gwulval	49 14 6	—	—	0 10 0	0 10 0	Sept. 1867		
358	Dolcoath, c, t, Camborne	128 17 6	—	—	840 10 0	3 0 0	Feb. 1868		
6144	East Caradon, c, St. Cleer	2 14 6	4 1/4	3 1/2 4 1/4	14 11 6	0 2 0	July 1867		
300	East Darren, t, Cardiganshire	32 0 0	—	—	150 10 0	2 0 0	Dec. 1867		
128	East Pool, t, c, Pool, Illogan	24 5 0	—	—	427 10 0	5 0 0	Mar. 1868		
1906	East Wheel Lovell, t, Wendron	3 9 0	9	8 1/2 9	8 11 6	0 10 0	Dec. 1867		
2800	Foxdale, t, Isle of Man	25 0 0	—	—	71 0 0	0 10 0	Sept. 1867		
6000	Frank Mills, t, Christow	3 18 6	—	—	5 5 6	0 5 0	Feb. 1866		
2950	Gawton, c, Tavistock	3 10 6	3	—	0 3 0	0 3 0	Jan. 1868		
15000	Great Laxey, t, Isle of Man	4 0 0	18	17 18	8 5 0	0 10 0	Mar. 1868		
5908	Great Wheal Vor, t, c, Helston	40 0 0	19 1/2	—	12 8 0	0 7 6	Dec. 1867		
1024	Herodfoot, t, near Liskeard	8 10 0	39	37 39	45 0 0	1 10 0	Feb. 1868		
6000	Hingston Down, c, Calstock	5 10 6	—	—	0 10 0	0 5 0	April 1866		
400	Lisburne, t, Cardiganshire	18 15 0	—	—	498 10 0	3 0 0	Dec. 1867		
3000	Mossy-Sale, t, Flint	29 0 0	30	28 29	0 5 0	0 5 0	Feb. 1868		
9000	Marla Valley, c, Cardiganshire	4 10 6	6 1/2	6 1/2 6 1/2	4 13 0	0 3 0	Jan. 1868		
3000	Miner Boundary, t, Wrexham	1 0 0	—	—	0 13 0	0 3 0	Mar. 1866		
1800	Minera Mining Co., t, Wrexham	25 0 0	200	185 195	228 13 0	5 0 0	Feb. 1868		
20000	Mining Co. of Ireland, c, t, cl.	7 0 0	18 1/2	—	0 6 6	0 2 6	Mar. 1866		
40000	Mynydd Iron Ore	3 5 0	—	—	187 10 0	5 0 0	Jan. 1866		
2000	Parys Mines, c, Anglesey	50 0 0	—	—	0 4 6	0 1 0	Feb. 1868		
12800	Prince of Wales, t, Calstock	0 12 6	3	568 588	0 4 6	0 1 0	Feb. 1868		
6000	Prosper United, t, St. Hilary	8 14 6	—	—	84 12 0	0 10 0	Feb. 1868		
1120	Providence, t, Uny Lelant	10 6 7	26	25 27	25 7 6	0 2 0	Feb. 1868		
512	South Caradon, c, St. Cleer	1 5 0	—	—	574 10 0	6 0 0	Jan. 1868		
6000	South Darren, t, Cardigan	3 6 6	1 1/2	—	0 8 6	0 1 6	Oct. 1867		
496	So. Wh. Frances, c, Illog. t	18 19 2	21	20 22	374 13 6	1 0 0	Mar. 1868		
508	Summer Hill, t, Mold	3 13 6	—	—	2 5 6	0 5 0	Feb. 1868		
6000	Tincroft, c, t, Pool, Illogan	9 0 0	14 1/2	13 1/2 14 1/2	19 0 0	0 5 0	Mar. 1868		
2000	Trumpet Cons., t, Helston	11 10 0	—	—	12 6 0	0 6 0	Dec. 1867		
3000	W. Chiverton, t, Perranzabuloe	10 0 0	63	65 65	25 7 6	0 2 0	Feb. 1868		
400	W. Godolphin, t, c, Breage	0 1 0	—	—	0 2 0	0 2 0	Dec. 1867		
400	W. Wheal Seton, c, Camborne	47 10 0	200	190 200	489 10 0	4 10 0	Feb. 1868		
512	Wheal Bassett, c, Illogan	5 2 6	70	65 70	630 10 0	1 10 0	Feb. 1868		
1024	Wheal Friendship, c, Tavistock	20 0 0	—	—	300 10 0	0 10 0	Nov. 1866		
512	Wheal Jane, s, t, Kea	10 10 0	33	—	—	2 0 0	Jan. 1868		
4295	Wheal Killy, t, St. Agnes	5 4 6	2 1/2	—	5 5 0	0 2 0	Feb. 1868		
1024	Wheal Mary Ann, t, Menheniot	8 0 0	22	20 21	6 5 0	0 17 6	Mar. 1868		
80	Wheal Owles, t, St. Just	7 0 0	—	—	350 13 0	7 10 0	Feb. 1868		
2000	Wheal Rose, c, Scorrier	—	—	—	1 0 0	0 10 0	Feb. 1866		
396	Wheal Seton, t, c, Camborne	58 10 0	85	85 90	254 15 0	2 0 0	Feb. 1868		
3000	Whitwell Lead, Clitheroe	0 5 0	—	—	1 0 0	0 10 0	Dec. 1867		
17000	Wicklow, c, t, Wicklow	2 10 0	16 1/2	—	48 10 0	0 15 0	Oct. 1867		

FOREIGN DIVIDEND MINES.									
Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.		
25000	Alamillos, t, Spain	2 0 0	2 1/2	—	0 2 6	0 1 6	Mar. 1868		
20000	Australian, c, South Australia	7 7 6	—	—	0 1 0	0 1 0	Aug. 1867		
15000	Cape Copper Mining	7 0 0	9 1/2	9 1/2 9 1/2	3 2 6	0 10 0	Feb. 1868		
70000	Don Pedro North del Rey	0 14 0	2 1/2	2 1/2 2 1/2	0 10 0	0 3 0	Nov. 1867		
70000	English and Australian	2 10 0	1 1/2	—	—	0 1 0	Feb. 1868		
28000	Fortuna, t, Spain	2 0 0	—	—	1 0 0	0 2 0	Mar. 1868		
20000	Gen. Mining Assoc., c, Nevada	2 0 0	—	—	23 10 0	0 15 0	June 1867		
2000	Gousses, t, c, Nevada	2 0 0	—	—	10 per cent.	—	July 1867		
60000	Kapunda Mining Co., Australia	1 0 0	3 1/2	3 1/2 3 1/2	0 10 0	0 10 0	Nov. 1867		
15000	Linares, t, Spain	3 0 0	—	—	11 11 8	0 2 0	Mar. 1868		
50000	Panuco, c, Chile	3 0 0	—	—	10 per cent.	—	Yearly.		
6000	Peel River Land and Mineral	100 0 0	—	—	—	—	—		
100000	Pontebaud, s, t, France	20 0 0	—	—	4 14 3	0 11 0	June 1867		
10000	Port Phillip, c, Clunet	1 0 0	1 1/2	1 1/2 1 1/2	1 0 0	0 1 6	Jan. 1868		
10000	Port Phillip, c, Clunet	1 0 0	—	—	7 1/2 per cent.	—	Nov. 1867		
11000	St. John del Rey, Brazil	15 0 0	16	17 18	81 10 0	4 5 0	Dec. 1867		
50000	Victoria (London) £25000 £1 pd.	15 0 0	12s. 6d.	pd.	0 9 0	0 1 0	Jan. 1866		
40000	West Canada Mining Co.	1 0 0	—	—	0 19 6	0 2 6	May 1866		

NON-DIVIDEND FOREIGN MINES.									
Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Coll.				
50000	Anglo-Argentine, s, Argentine Republic	1 0 0	—	1½.	1¼	1½	..	..	..
100000	Anglo-Brazilian, g	0 10 0	—	½.	¾	1½	..	Nov.	1866
12500	Anglo-Italian, g	0 10 0	—	½.	¾	1½	..	Jan.	1868
2464	Burra Burra, c, South Australia	5 0 0	—	—	—	—	..	..	..
25000	Capula, s, Mexico	1 12 0	—	—	—	—	..	Aug.	1866
30000	Chontales, g, s, Nicaragua	45 10 0	—	3¾.	4 4¼	..	..	Mar.	1868
12000	Cobre Copper Company, c, Cuba	16 10 0	—	—	—	—	..	Jan.	1868
10000	Copio Mining Company, Chile	16 10 0	—	—	—	—	..	..	..
10000	Copio Smelting, Chile	10 0 0	—	—	—	—	..	April	1866
300	Copper Miners' Co. of South Australia [150 £100 pd., 150 £70 pd.]	150 £70 pd.]	—	—	—	—	..	Nov.	1866
15000	El Chico Silver Mining and Reduction Company	5 0 0	—	—	—	—	..	Nov.	1866
40000	Fortuna Copper Mining Co. of Western Australia	2 0 0	—	—	—	—	..	Fully	pd.
50000	Frontino and Bolivia, g, New Granada	1 15 0	—	9s.	12s.	15s.	..	June	1867
10000	Great Barrier Land, Mining, &c., New Zealand	5 0 0	—	—	—	—	..	Fully	pd.
80000	Great Northern, c, South Australia	1 11 6	—	—	—	—	..	Sept.	1862
7927	Lusitania (Portugal)	3 0 0	—	—	—	—	..	..	..
8540	Mariquita, c, s, New Granada	1 0 0	—	—	—	—	..	Feb.	1868
12500	Nerbudda Coal and Iron, India	6 0 0	—	—	—	—	..	Dec.	1867
51000	New Quebrada, c, Venezuela	3 10 0	—	—	—	—	..	..	..
50000	Pestana, c, New Zealand	2 15 0	—	—	—	—	..	Fully	pd.
80000	Pestana, c, New Zealand	2 15 0	—	2½.	2½	2½	..	..	..
10178	Rhenish Consolidated, £ [6000 £500 pd., 4178 £210s. pd.]	—	—	—	—	—	..	May	1866
100000	Rosa Grande, c, Brazil	0 14 0	—	¾.	12s.	14s.	..	June	1867
15000	San Pedro del Monte, s, Mexico	4 0 0	—	—	—	—	..	Sept.	1867
10000	San Roque, l, Spain	5 0 0	—	—	—	—	..	Fully	pd.
100000	Taquaril, c, Brazil	0 5 0	—	—	—	—	..	Oct.	1867
6000	Terresen, s-l, Isle of Sardinia	2 0 0	—	—	—	—	..	..	..
43174	United Mexican, s, Mexico	28 5 0	—	2½.	1½	1¾	..	..	..
30000	Val Antigua, g, Italy	1 2 6	—	—	—	—	..	..	..
10000	Vancouver, c, Italy	6 0 0	—	—	—	—	..	..	..
6000	Val Sassam, s, c, l, Italy	7 0 0	—	—	—	—	..	Aug.	1867
45000	Victor Emmanuel, c, Italy	1 0 0	—	—	—	—	..	Fully	pd.
20000	Washoe, g, Nevada	5 0 0	—	—	—	—	..	Fully	pd.
80000	Worthing, c, South Africa	1 0 0	—	—	—	—	..	Fully	pd.
75000	Yorke Peninsula, South Australia	1 0 0	—	—	—	—	..	Fully	pd.
45000	Yudanamutana, c, South Australia	3 0 0	—	1¾.	1¾	1¾	..	Fully	pd.